Town of Arlington, MA
Redevelopment Board

Agenda & Meeting Notice
March 15, 2021

This meeting is being held remotely in accordance with the Governor's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law G.L. c. 30A, Section 20. Public comments will be accepted during the public comment periods designated in the agenda. Per Board Rules and Regulations, public comments will be accepted during the public comment periods designated on the agenda. Written comments may be provided by email to jraitt@town.arlington.ma.us by March 15, 2021 at 4:00 p.m. The Board requests that correspondence that includes visual information should be provided by March 12, 2021 at 12:00 p.m.

The Arlington Redevelopment Board will meet Monday, March 15, 2021 at 6:00 PM in the
This meeting will be held via Zoom Meeting with audio and video by using this link and Meeting ID: 972 4412 5035 https://town-arlington-ma-us.zoom.us/j/972 4412 5035 Meeting ID: 972 4412 5035 or by phone:1-646-876-9923, enter Meeting ID then "#"

1. Public Hearings

6:00 p.m. **Docket #3647, 10 Sunnyside Avenue**
Continued Public Hearing
PLEASE NOTE THAT THE APPLICANT HAS REQUESTED A CONTINUANCE AND THE PUBLIC HEARING WILL BE CONTINUED TO AN UPCOMING ARB MEETING.
Board will open a public hearing for Special Permit #3647 to review an application filed by MB Realty Group, LLC, 339 Massachusetts Avenue, Arlington, MA, on January 26, 2021, in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to reconstruct a mixed-use building containing general office space and five residential condominiums at 10 Sunnyside Avenue, Arlington, MA in the B4 Vehicular Oriented Business District. The opening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review.

Docket #3646, 1420 Massachusetts Avenue
Continued Public Hearing
Board will open a public hearing to review an application filed on January 26, 2021 by 1420 Massachusetts Avenue, LLC, c/o Bierbrier Development, 420 Bedford Street, Lexington, MA, in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to reconstruct the Citizens Bank and make other site improvements at 1416-1420 Massachusetts

Avenue, Arlington, MA in the B4 Vehicular Oriented Business District. The opening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review, and Section 6.2, Signs.

• For each public hearing, applicants will be provided 5 minutes for a presentation.
• DPCD staff will be provided 3 minutes to discuss public hearing memo.
• Members of the public will be provided time to comment.
• Board members will discuss each docket and may vote.

2. 23 Maple Street - Memorandum of Understanding

6:40 p.m. 23 Maple Street - Memorandum of Understanding between Town of Arlington (Department of Public Works, Department of Inspectional Services, and Department of Information Technology) and Arlington Redevelopment Board

Board members will review MOU and authorize Director to proceed with tenancy

3. Zoning Warrant Article Public Hearings

7:00 p.m. **ARTICLE 45**
ZONING BYLAW AMENDMENT/ TO INCREASE THE PERCENTAGE OF AFFORDABLE HOUSING UNITS
To see if the Town will vote to amend Section 8.2.3A of the Zoning Bylaw to increase the percentage of affordable housing units required in any development subject to Section 8.2 of the Zoning Bylaw from 15% to a percentage between 25 and 30%; or take any action related thereto.
(Inserted at the request of John Sanbonmatsu, Laura Kiesel, and 10 registered voters)

ARTICLE 41
ZONING BYLAW AMENDMENT/DEFINITION OF FOUNDATION
To see if the Town will vote to amend the Zoning Bylaw in Section 2, by adding a new definition as follows: Building Foundation: The masonry or concrete structure in the ground which supports the building. It does not include porches, decks, sheds, patios, one story attached garages, carports, or the like; or take any action related thereto.
(Inserted at the request of Patricia B. Worden and 10 registered voters)

ARTICLE 38
ZONING BYLAW AMENDMENT/ ENERGY EFFICIENT HOMES ON NONCONFORMING LOTS
To see if the Town will vote to amend the Zoning Bylaw to allow new construction of energy efficient foundations and homes on nonconforming lots in the R0, R1, and R2 Districts that meet certain energy efficiency industry standards; or take any action related thereto.
(Inserted at the request of the Redevelopment Board)

ARTICLE 43
ZONING BYLAW AMENDMENT/ ARTICLE TO PROPOSE THE ADOPTION OF ACCESSORY DWELLING UNITS (ADUs)
To see if the Town will vote to the purpose of this article is to see if the Town will amend the Zoning Bylaw to allow Accessory Dwelling Units (ADUs) on the

property of single family, two-family, and duplex dwellings; or take any action related thereto.
(Inserted at the request of Barbara Thornton and 10 registered voters)
** Please note that this Zoning Bylaw Amendment is subject to M.G.L. c 40A Section 5 such that this zoning bylaw may be enacted by a simple majority vote, rather than the 2/3 supermajority that applies to other zoning amendments. **

ARTICLE 42
ZONING BYLAW AMENDMENT/ AFFORDABLE HOUSING ON PRIVATELY OWNED PARCELS
OF "NON-CONFORMING" SIZE
To see if the Town will vote to allow the development of new sources of permanently affordable housing (affordable in perpetuity and affordability as defined in Arlington Zoning By-Laws) by modifying the requirements for constructing housing units to enable construction on smaller lots as long as those units are permanently committed to be available for rental or ownership according to official regional guidelines (see (Zoning Bylaw Section 2, Basic Provisions, Definitions Associated with Affordable Housing) of affordability. Such construction would be permissible in all zoning districts allowing residential use, providing the tracts were laid out prior to July 1, 2019, and receive a special permit from the ZBA. Ownership, sale, repurchase and rentals of each property would be overseen by the Arlington Housing Trust Fund or a comparable entity that would have the authority to enforce the affordability guidelines in perpetuity; or take any action related thereto.
(Inserted at the request of Barbara Thornton and 10 registered voters)

A brief introductory presentation will be provided for each article

Board members and members of the public will be provided time to ask questions and comment for each article

4. Warrant Article Review

9:15 p.m. Article 11 Bylaw Amendment/ Stormwater Management
Article 22 Vote/ Reserve Affordable Housing for People Earning Under 60% AMI
Article 27 Home Rule Petition/ Real Estate Transfer Fee

Board will discuss articles and provide feedback to Director to prepare a memo on behalf of Board to Select Board

5. Meeting Minutes (12/9/20, 12/21/20)

10:00 p.m. Board will review and approve minutes

6. Open Forum

10:05 p.m. Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made the night of the presentation. There is a three minute time limit to present a concern or request.

7. Adjourn

10:25 p.m. Estimated Time for Adjournment

8. Correspondence Received

Correspondence received from:
R. Harney 030321
C. Loreti 030521
X. Pretzer 030921
S. Newton 031121

Town of Arlington, Massachusetts

Public Hearings

Summary:

6:00 p.m. **Docket #3647, 10 Sunnyside Avenue**
Continued Public Hearing
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- Board members will discuss each docket and may vote.

ATTACHMENTS:

	Type	File Name	Description
🗋	Reference Material	Docket_3647_Request_for_Continuance_03-11-21.pdf	Docket #3647 Request for Continuance 03-11-21
🗋	Reference Material	EDR_Public_Hearing_Memo_Docket_3647_10_Sunnyside_Final.pdf	EDR Public Hearing Memo Docket #3647 10 Sunnyside Final
🗋	Reference Material	Combined_Application_Materials.pdf	Combined Application Materials
🗋	Reference Material	Updated_Plan_Set_10_Sunnyside_Received_2-25-21.pdf	Updated Plan Set 10 Sunnyside received 2-

			25-21
	Reference Material	Stormwater_Report.pdf	Stormwater Report
	Reference Material	Updated_Memo_to_ARB_re_Docket_3646_03-11-21.pdf	Updated Memo to ARB re Docket #3646 03-11-21
	Reference Material	EDR_Public_Hearing_Memo_Docket_3646_1420_Mass_Ave.pdf	EDR Public Hearing Memo Docket #3646 1420 Mass Ave
	Reference Material	Docket_3646_Combined_Application_Materials.pdf	Docket #3646 Combined Application Materials
	Reference Material	Docket_3646_Supplemental_Application_Materials_for_3-15-21_Hearing.pdf	Docket #3646 Supplemental Application Materials for 3-15-21 Hearing
	Reference Material	Updated_Sign_Package_Received_02-17-21_superseded.pdf	Updated Sign Package Received 02-17-21 superseded
	Reference Material	1420_-_LEED_v4_for_Building_Design_and_Construction_superseded.pdf	Docket #3646 1420 Mass Ave LEED for Building Design and Construction superseded

From: "Robert Annese" <law@robertannese.com>
To: "Jennifer Raitt" <jraitt@town.arlington.ma.us>
Cc: <ezwirko@town.arlington.ma.us>
Date: 03/11/2021 11:52 AM
Subject: 10 Sunnyside Ave

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Hi Jenny:

The applicant is requesting a continuance of the hearing scheduled for next Monday evening, March 15th to the next available hearing date for the purpose of addressing issues raised at the last hearing.

Would you please let my office know if the request will be granted by the members of the ARB.

Very truly yours,

BE AWARE OF WIRE FRAUD – IF YOU RECEIVE AN EMAIL FROM OUR OFFICE REQUESTING THAT YOU WIRE FUNDS, YOU MUST CAL OUR OFFICE AND VERBALLY CONFIRM THE REQUEST PRIOR TO THE TRANSFER OF ANY FUNDS. WIRING INSTRUCTIONS WILL ONLY COME FROM OUR OFFICE. IF YOU RECEIVE INSTRUCTIONS FROM ANY OTHER PARTY (INCLUDING YOUR LENDER) CALL US IMMEDIATELY.

CONFIDENTIALITY NOTICE: This communication contains privileged and confidential information that is intended for the use of the individual or entity named above, only. If the reader of this communication is not the intended recipient or th employee or agent responsible for delivering to addressee, you are notified that any dissemination or copying of this communication is strictly prohibited. If you received this message in error, please notify the Law Office of Robert J. Annese by phone at (781) 646-4911 and delete this communication from your system.

Robert J. Annese, Esquire
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law@robertannese.com

Town of Arlington, Massachusetts

Department of Planning & Community Development

730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 10 Sunnyside Avenue, Arlington, MA
Docket #3647

Date: February 25, 2021

I. Docket Summary

This is an application by MB Realty Group, LLC, 339 Massachusetts Avenue, Arlington, MA, to open Special Permit Docket #3647 in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to construct a mixed-use building containing general office space and five residential condominiums at 10 Sunnyside Avenue, Arlington, MA in the B4 Vehicular Oriented Business District.

The mixed-use structure is intended to be used by Column Health. Management employees will occupy the office space and the residences are intended for employees as well. Column Health also operates health care space at 339 Massachusetts Avenue, but those services are not intended to move to 10 Sunnyside Avenue.

Materials submitted for consideration of this application:

- Application for EDR Special Permit;
- Existing Conditions Plan, prepared by Coneco, dated November 9, 2020, updated for the hearing on February 25, 2021;

- Site Plans for Column Health Offices & Residences, prepared by EBI Consulting, dated December 7, 2020, updated for the hearing on February 25, 2021;
- Architectural Site Plans, Gross Floor Area Plans, Floor Plans, Elevations, Perspectives, and Renderings, prepared by Khalsa Design, dated December 8, 2020, updated for the hearing on February 25, 2021;
- Supplemental Traffic Impact Study, prepared by Nitsch Engineering, dated December 22, 2020;
- Stormwater Management Report, prepared by EBI Consulting, dated November 17, 2020; and
- LEED Checklist.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. **Section 3.3.3.A.**
   The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

   A mixed-use building is allowed in the B4 Vehicular Oriented Business District. The Board can find this condition is met.

2. **Section 3.3.3.B.**
   The requested use is essential or desirable to the public convenience or welfare.

   The Master Plan promotes mixed-use as a means to revitalize business districts, by bringing customers and street life to commercial zones. The Zoning Bylaw in Section 5.5.1 notes that all vehicular oriented businesses in this zoning district are encouraged to convert property to other retail, service, office, or residential use, especially as part of mixed-use developments. The office space will be used by Column Health for management employees and the residential space is for Column Health employees as a live-work arrangement. The redevelopment of this former automotive repair site is desirable for the site. The Board can find this condition is met.

3. **Section 3.3.3.C.**
   The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

   Due to the live-work arrangement for Column Health employees, and the limited management staff who will utilize the office space, the proposed project will not create undue traffic congestion. The redevelopment of the site includes the establishment of a more formal sidewalk with a single entry and exit to the site improving pedestrian safety along Sunnyside Avenue. The Board can find this condition is met.

4. **Section 3.3.3.D.**
   The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

   The proposed mixed-use structure will not overload the public water, drainage, or sewer system. The redevelopment of the site includes upgrades to manage stormwater onsite, particularly runoff from portions of the roof, driveway, and landscaped area, as well as the inclusion of permeable pavers. The Board can find this condition met.

5. **Section 3.3.3.E.**
   Any special regulations for the use as may be provided in the Bylaw are fulfilled.

   There are no special regulations for this particular use. The Board can find this condition met.

6. **Section 3.3.3.F.**
   The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

   The redevelopment of this former automotive-oriented site will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health and welfare. Mixed-use structures are encouraged to replace former automotive uses in this district. The Board can find this condition is met.

7. **Section 3.3.3.G.**
   The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

   The use will not be in excess or detrimental to the character of the neighborhood. The Board can find this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. **EDR-1 Preservation of Landscape**
   The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

   The existing site condition is developed with extensive asphalt pavement and a garage structure. There is some landscaping inside the security fencing that has been previously maintained, and the remainder of the vegetation on site has never been maintained. As part of the redevelopment of the site, new landscaping will be installed

along the perimeter of the site and in other areas internal to the site. The Board can find this condition met.

2. **EDR-2 Relation of the Building to the Environment**
Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

The architectural style of the building is contemporary. Incorporating the façade of the existing garage on the site creates some visual interest and speaks to the site history. The larger portion of the structure meets many of the recommendations of the Design Standards of the Town of Arlington. In particular, there is ground floor transparency and variation in the building facades. More description about and samples of the building materials may be necessary.

The building is in compliance with the floor area ratio allowed for the use in this zoning district. (Please note this update on the revised plans submitted February 25, 2021.)

The taller portion of the structure is a full four stories, and the fifth story is more than just a headhouse for the elevator. There are spaces used for human occupation on the fifth floor, which are not comparable to the maximum height exceptions included in Section 5.3.20. The Density and Dimensional Table in Section 5.5.2.A. shows two different maximum height and stories for this use, with a circular reference to Section 5.3.19, otherwise known as the reduced height buffer area. The application materials include an analysis of the reduced height buffer area, and a portion of the building does fall into the buffer area. As such, the applicant has requested the Redevelopment Board to make a determination that the building will not adversely affect the nearby R1 and R2 zoning districts due to the existing use or topographic conditions. The application materials indicate that this determination could be made due to the context of the neighborhood and the immediately adjacent business zoning districts. Renderings are provided.

Further, the upper story building stepback is not provided per Section 5.3.17; however, there is still variation in the building façade that the Redevelopment Board may consider this consistent with the intent of the Bylaw.

3. **EDR-3 Open Space**
All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

The usable open space requirement is approximately 3,237 square feet. Approximately 1,780 square feet of open space is provided at grade. It should be noted that the area of usable open space meets the requirement to be no less than 25 feet in any horizontal direction. There is additional open space provided on roofs and balconies, including 645 square feet in the green house and 5,784 square feet is located on the residential balconies and roof decks, a portion of which can be counted toward the usable open space requirement per Section 5.3.18.

The ARB may want to see more detail about plantings and landscaping at grade and in other areas.

4. <u>EDR-4 Circulation</u>

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The proposal includes 21 parking spaces. Section 6.1 requires 20 parking spaces. 18 of the proposed parking spaces will be located in a garage and the applicant proposes using car stackers to maximize the use of the garage space. An attendant will operate the car stacker. The remaining three parking spaces will be tandem along the rear of the residential portion of the building. No setback for these parking spaces or driveway space is required as the adjacent use is a business use, although there is a retaining wall between the rear of the property and the adjacent property and some landscaping.

All of the parking spaces are compliant with the dimensions required by Section 6.1.11.A. However, the drive aisle between the two portions of the building and the drive aisle in the parking garage, both of which support two-way traffic are only 20 feet wide, whereas the requirement is 24 feet.

A Traffic Impact Study was provided with the application materials. Because of the live-work arrangement for this Column Health building, the number of vehicular trips is projected to be very low. As such, the study notes that the redevelopment of this site would not negatively affect the intersections in the immediate area.

Bicycle parking is provided throughout the property. In total, 13 short-term bicycle parking spaces and 11 long-term bicycle parking spaces are provided. The updated plan set received February 25th includes a specification for an inverted U style bike rack. This

style bike rack is likely acceptable for the outdoor racks, but may be refined for the indoor bike racks.

5. **EDR-5 Surface Water Drainage**

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas. In accordance with Section 3.3.4., the Board may require from any Applicant, after consultation with the Director of Public Works, security satisfactory to the Board to ensure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the Applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

A Stormwater Report is included in the application materials. The current site conditions allow stormwater to leave the site untreated and flow into catch basins on Sunnyside Avenue. The proposed redevelopment stormwater plan will capture some stormwater onsite. Stormwater from the residential roof, a portion of the office roof, the driveway, and some landscaped areas will be collected by catch basins and directed to an underground infiltration trench. Permeable pavers will capture additional runoff. The remaining portion of the office roof and other portions of the site that are impracticable to direct to the infiltration trench will continue to leave the site and enter the municipal system in Sunnyside Avenue.

A Long Term Pollution Prevention Plan and an Operations and Maintenance Plan are included with the Stormwater Report.

The Board can find this condition is met.

6. **EDR-6 Utilities Service**

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

All new utility service will be underground. The Board can find this condition is met.

7. **EDR-7 Advertising Features**

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The application materials indicate that there will be new Column Health signage on the building and a street number above the residential entrance. In the updated plan set received February 25th, details on the Column Health signage is provided. The sign is 42 square feet and will have no internal illumination. The maximum size for a wall sign at this location is 40 square feet. There may be the opportunity to slightly shrink the signage to be compliant with Section 6.2. The Board may want to request additional information about the materials proposed for the sign.

8. **EDR-8 Special Features**

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

There are no such special features proposed for the site. The Board can find this condition is met.

9. **EDR-9 Safety**

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

As noted in the application materials, the buildings have been designed to facilitate evacuation and accessibility. The Board can find this condition is met.

10. **EDR-10 Heritage**

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The existing structure is not listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* nor is it under the jurisdiction of the Arlington Historical Commission. As such, the site contains no historic, traditional or significant uses, structures or architectural elements. The Board can find this condition is met.

11. EDR-11 Microclimate

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that will impact the microclimate. The Board can find this condition is met.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

The applicant provided a LEED Checklist and the project would meet Gold Certification standards indicating that LEED performance standards will clearly be incorporated into the project. Additionally, the application materials indicate that solar will be used, geo-thermal heating and cooling, energy efficient windows, sustainable interior products, and other elements to promote passive heating and cooling. A large greenhouse is also proposed. The Board can find this condition is met.

IV. Findings

The following findings are for the Board's consideration:

1. The ARB finds that the project is consistent with Environmental Design Review per Section 3.4 of the Zoning Bylaw.
2. The ARB finds that the five-story building will not adversely affect the adjacent R1 and R2 zoning districts per Section 5.3.19.

V. Conditions

The following conditions are for the Board's consideration:

General

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board at the time when future operators are identified. Any substantial or material deviation during

construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board

2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.

3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.

4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.

5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with the Town Bylaws.

6. Upon installation of landscaping materials and other site improvements, the owner shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.

7. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.

ROBERT J. ANNESE
ATTORNEY AT LAW

January 15, 2021

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

RE: 10 Sunnyside Avenue, Arlington, MA

Dear Ms. Raitt:

I am sending along an Application for Environmental Review filed in behalf of MB Realty Group, the owner of real estate located at 339 Massachusetts Avenue, Arlington.

Also, together with the Application are the following documents;

- Required Submittals Checklist;
- Dimensional and Parking Information form;
- Plans of Khalsa Design Incorporated;
- Stormwater Management Report of EBI Consulting;
- Supplemental Traffic Study of Nitsch Engineering;
- LEEDs project checklist;
- Environmental Impact Statement; and
- Special Permit Criteria form along with an Environmental Design Review Standards form.

I am also sending along a check in the amount of $2,100.00 representing the filing fee based upon a calculation of $500.00 plus $0.20 per square foot of the new construction of 8,000 square feet.

This Application is being filed digitally and I am sending two (2) hard copies to your office as well.

Would you please let me know the date the Application will be heard by the ARB.

Thank you for your cooperation.

Very truly yours,

Robert J. Annese

Enclosures

1171 MASSACHUSETTS AVENUE • ARLINGTON, MASSACHUSETTS 02476 • TELEPHONE 781-646-4911 • FAX 781-646-4913
E-MAIL ADDRESS: LAW@ROBERTANNESE.COM

NB Realty Group, LLC

0991
53-13/110 MA
82989

DATE 12/30/2020

PAY TO THE ORDER OF Town of Arlington $ 2,100.00

Two thousand one hundred and 00/100 DOLLARS

Security Features Details on Back.

Bank of America

FOR Town Review

MP

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TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address: **10 Sunnyside Ave., Arlington, MA**
   Name of Record Owner(s): **MB Realty Group, LLC** Phone: **(847) 414-3081**
   Address of Owner: **339 Massachusetts Ave., Arlington, MA 02474**
   Street City, State, ZIP

2. Name of Applicant(s) (if different than above): **SAME**
   Address: _____ Phone: _____
   Status Relative to Property (occupant, purchaser, etc.): _____

3. Location of Property: **Map 033.0, Block 0002, Lot 0002.B**
   Assessor's Block Plan, Block, Lot No.

4. Deed recorded in the Registry of deeds, **Book 73883, Page 259**;
   or- registered in Land Registration Office, Cert. No_____, Book _____, Page _____

5. Present Use of Property (include # of dwelling units, if any): **automotive use, one unit**

6. Proposed Use of Property (include # of dwelling units, if any): **one mixed-use building with general office and residential space that will include 5 condominiums, including an indoor garage and outdoor surface parking**

7.

Permit applied for in accordance with the following Zoning Bylaw section(s):	**Section 3.4** **Section 5.5.2** **Section 5.3.19**	**Environmental Design Review** **Dimensional and density regulations** **SP mixed use bylaw** **Reduced height buffer**

8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

   Please see attached.

(In the statement below, strike out the words that do not apply)

The applicant states that **MB Realty Group, LLC** is the owner of the property in Arlington located at **10 Sunnyside Ave.** which is the subject of this application; and that unfavorable action *-or-* no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s)

1171 Massachusetts Ave Arl.

Address

781-646-4911

Phone

Town of Arlington Redevelopment Board
Application for Special Permit in accordance with Environmental Design Review (Section 3.4)

Required Submittals Checklist

File each in triplicate except for model
References are to Arlington Zoning Bylaw

__X__ Dimensional and Parking Information Form

__X__ Site plan of proposal

_____ Model, if required

__X__ Drawing of proposed structure

__X__ Proposed landscaping. May be incorporated into site plan

_____ Photographs

__X_ Impact statement

_____ Application and plans for sign permits

__X__ Stormwater management plan (for stormwater management during construction for projects with new construction)

FOR OFFICE USE ONLY

_____ Special Permit Granted Date: _____

_____ Received evidence of filing with Registry of Deeds Date: _____

_____ Notified Building Inspector of Special Permit filing Date: _____

TOWN OF ARLINGTON
Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location 10 Sunnyside Ave

Zoning District B4

Owner: Column Health LLC

Address: 339 Massachusetts Avenue

Present Use/Occupancy: No. of Dwelling Units:
Auto Repair: No current DU's

Uses and their gross square feet:
5,523 sf of Auto Repair and vehicle storage

Proposed Use/Occupancy: No. of Dwelling Units:
Mixed-Use (Office & Residential): 5 DU

Uses and their gross square feet:
Office: 8,082 sf / Residential: 19,428 sf

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	16,500 sf	16,500 sf	min. n/a
Frontage	150'-2"	150'-2"	min. 50'-0"
Floor Area Ratio	.33	1.5	max. 1.5
Lot Coverage (%), where applicable	n/a	n/a	max. n/a
Lot Area per Dwelling Unit (square feet)	n/a	n/a	min. n/a
Front Yard Depth (feet)	4'-2"	4'-2"	min. 0'-0"
Side Yard Width (feet) right side	71'-0"	4'-11 1/2"	min. 0'-0"
left side	1'-0"	1'-0" (exist)	min. 0'-0"
Rear Yard Depth (feet)	0'-4"	16'-6 3/4"	min. 16'-6"
Height	+/- 15'-0"	49'-0"	min. 60'-0"
Stories	1.5	5	stories 5
Feet	+/- 15'-0"	49'-0"	feet 60'-0"
Open Space (% of G.F.A.)	n/a	1,780 sf	min. n/a
Landscaped (square feet)	unknown	1,780 sf	(s.f.) 10% (1,650 sf)
Usable (squere feet)	unknown	2,643 sf	(s.f.) 20% (3,300 sf)
Parking Speces (No.)	unknown	21 spaces	min. 20 spaces
Parking Area Setbacks (feet), where applicable	n/a	n/a	min. exempt
Loading Spaces (No.)	n/a	n/a	min. n/a
Type of Construction	TBD - Most likely Type 1 construction		
Distance to Nearest Building	+/- 35'-0"	+/- 35'-0"	min. n/a

TOWN OF ARLINGTON
REDEVELOPMENT BOARD
Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape**. The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

   The proposed plans increase the landscaping the site and will minimize tree and soil removal.

2. **Relation of Buildings to Environment**. Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on abutting property in an RU, RI or R2 district or on public open space.

   The proposed buildings are related harmoniously to the terrain and to the use, scale, and architecture of existing building in the vicinity of the property.

3. **Open Space**. All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.

   All open space, both landscaped and usable has been designed in order to enhance the level of landscaped open space and usable open space.

4. **Circulation**. With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

   The Applicant has submitted a traffic study of Nitsch Engineering which details the volume of traffic, safety issues, traffic patterns and other issues related to traffic with a conclusion on the part of the author of the traffic report that there will be no adverse impact upon the existing traffic conditions as a result of Applicant's development.

5. **Surface Water Drainage**. Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

A stormwater management report has been prepared by EBI Consulting and the conclusion of the author of that report is that there will be no adverse impact upon surface water drainage as a result of the Applicant's development.

6. **Utility Service**. Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

All utility service will be underground.

7. **Advertising Features**. The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

It is Applicant's intent to discuss with the Planning Department any advertising plans it may have with respect to the project with the expectation that any planning could be dealt with administratively .

8. **Special Features**. Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

Any machinery located at the property will be screened as shown on the Applicant's plans and there will be adequate screening methods put in place with respect to trash and related matters.

9. **Safety**. With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The interior and exterior of the building has been designed to facilitate building evacuation and maximizing accessibility by fire, police, and other emergency personal and equipment.

10. **Heritage**. With respect to Arlington's heritage, removal, or disruption of historic, traditional, or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.

There will be no impact on Arlington's heritage with respect to the development.

11. **Microclimate**. With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.

There will be no adverse impact on light, air, and water resources, or on noise and temperature levels in the immediate environment of the property as a result of the Applicant's development.

12. **Sustainable Building and Site Design**. Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.
Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.
[LEED checklists can be found at http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b]

The Applicant has submitted a LEED checklist appropriate to the proposed development.

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw)

1. The use requested is listed in the Table of Use Regulations as a special permit in the district for which application is made or is so designated elsewhere in this Bylaw.

   Section 5.5.3 i.e., Use Regulations for business districts.

2. The requested use is essential or desirable to the public convenience or welfare.

   The current condition of the site hears all of the history of a disused automotive use not in keeping with the majority of the buildings both business and residential located on Sunnyside Ave. The proposed development will clean up the site and create an attractive building in place of the prior automotive use.

3. The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.

   In accordance with the traffic study of Nitsch Engineering there will be no adverse impact and no undue impairment of pedestrian safety.

4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

   The request use will not overload public water, drainage or sewer system or any other municipal system in the Town.

5. Any special regulations for the use, set forth in Article 11, are fulfilled.

   Any special regulations for the use, set forth in Article 11, are fulfilled

6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.

   The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare because the proposed development will clean up a prior disused automotive use and construct a building which will fit in harmoniously with other buildings in the neighborhood of the property.

7. The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood.

   The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood as there is no similar use being proposed that the Applicant is aware at this time.

10 Sunnyside Ave
Arlington, MA

Environmental Impact Statement

The Applicant proposes to modify and expand the existing building currently containing approximately a 5,400 square foot automotive center located in a B4 zone in order to construct a mixed-use building development on the site with approximately 8,000 square feet of general office and approximately 20,000 square feet of residential space that will include five (5) residential condominiums.

The relief sought by the Applicant implicates Section 3.4, Environmental Design Review, Section 5.5.2 Dimensional and Density Regulations, a special permit in accordance with the mixed-use bylaw and Section 5.3.19, reduced height buffer.

With respect to Section 5.3.19, the Applicant has submitted a Google aerial depiction showing the property in the B-4 zone of the property and showing the relation of that property to residential zoning districts located near the property.

The Google aerial depiction and the comments of the Applicant's architect indicate that 10 Sunnyside Ave is located approximately 165'0" to the beginning of the R-1 zone on Michael Street looking north as denoted with a white line and arrow.

The 10 Sunnyside Ave property is located approximately 252'0" to the beginning of the R-2 zone on Sunnyside Avenue looking northeast as denoted with a yellow line and arrow shown on the Google aerial depiction.

The provisions of Section of 5.3.19 contained in the Bylaw contain the following calculations with respect to determining the height level which will apply to the Applicant's five story building as follows:

Land in R0, R1, R2, OS is located	**Lower height shall apply**
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

It is the Applicants' position that the impact of the proposed five story building on residential zoning districts near the B4 zone where the 10 Sunnyside property is located would not be significant when the aforementioned zoning calculations are compared and contrasted with the aerial Google shown distances of the B4 Sunnyside Ave zone from those residential zoning districts and when viewed in the context of its plans.

The site will also include an indoor parking garage and surface parking to accommodate a total of 21 vehicle parking spaces and 34 bicycle spaces.

Access to the site will remain as existing; one curb cut off of Sunnyside Ave.

The site is bounded by a commercial property to the north, marijuana dispensary to the south, Sunnyside Ave to the east and a commercial parking lot to the west.

The lot contains 16,500 square feet of land area and the proposed development will transform a prior automobile use from a blighted site and the proposal is in line with the definition of a B4 zone as defined in Section 5.5.1 further subsection E of the Zoning Bylaw which provides as follows:

> "B4: Vehicular Oriented Business District. The Vehicular Oriented Business District provides for establishments that are primarily oriented to automotive traffic, which means they require large amounts of land in proportion to building coverage. This district also consists of establishments devoted to the sale or servicing of motor vehicles, the sale of vehicular parts and accessories, and service station-Arlington has an

> abundance of automotive and automotive accessory sales and service establishments. As these businesses gradually close, the Town has encouraged conversion of the property to other retail, service, office, or residential use, particularly as part of mixed-use development."

As can be seen from the last sentence of the B4 definition, the Town has encouraged conversion of prior automotive uses to other retail, service, office, or residential use particularly as part of a mixed-use development. That objective is exactly what the Applicant's proposal entails.

The property has 150.2 feet of frontage on Sunnyside Ave. and the proposed Floor Area Ratio (FAR) would be 1.5 while Zoning requires an FAR of 1.5.

The front yard depth is presently 4 feet, 2 inches and would remain at 4 feet, 2 inches while the side yard depth which on the right side which is currently 71 feet will be reduced to 4 feet, 11.5 inches and the left side which is currently 1 foot will continue at 1 foot.

With respect to both side yards there is no minimum zoning requirement.

The rear yard depth which is currently 0 will be enhanced to 16 feet 6¾ inches, while the zoning requirement is 16 feet, 6 inches.

The height of the building which is currently 15 feet will change to 49 feet while zoning allows a height of 60 feet and the number of stories will be 5 and zoning allows 5 stories in the B4 zone.

The proposed landscaped square feet would be 1,780 square feet and the proposed usable open square feet would be 2,643 square feet.

There will be 21 parking spaces while zoning would require 20 spaces.

The bicycle parking would be both long-term inside and short-term outside the building.

The proposed development of the 10 Sunnyside Avenue property is a unique opportunity to do both an adaptive re-use and ground up construction project.

The current garage and adjacent empty lot located on the end of Sunnyside nearest to Broadway has sat empty for quite some time. The Applicant saw this lot as an opportunity to revitalize a portion of Arlington that has long been dedicated to industrial uses. The proposed development will be a sustainable development using many “Green” features that will benefit both the office and residential aspects of the project.

The existing garage will remain intact except for the portion that housed the ramp to the basement. That will be removed. The garage itself will now house meeting space, storage space and on occasion office use for Column Health's management team. As part of this a new 1,800 square foot greenhouse is proposed for the roof of the current garage. A re-purposed shipping container will house the new café area for employees, while the existing garage roof will be covered in solar panels. The former garage was not accessible for visitors with disabilities. The proposed rehab will also include a new elevator as well as accessible toilets and an accessible route in and out of the building.

Adjacent to the garage will be a full service 5-unit condominium building. Concierge service will be provided for the Column Health team members who live in the building. This will allow tenants to utilize the car stackers within the garage without having to operate the lifts themselves. This garage is accessed via a common drive aisle that splits the office portion from the residential, allowing Fire Department access to two sides of the building. Given the properties adjacency to the bike trail, alternative transportation is an

important part of this project. A large tenant bike room is provided as well as additional bike parking in the rear of the site next to the large open green space that has been created. The building itself is a contemporary design which will be comprised mostly of Steel and Concrete, while being clad in cementitious and metal panels along with a corten steel that has been allowed to patina to a rust-colored tone. Each of the 5 dwelling units are large in size, ranging from 898 square feet to 3,982 square feet for an average of 2,355 square feet per unit. All units have expansive outdoor space with a mix of terraces, balconies, and roof decks.

Sustainability is an important aspect of this development. As previously mentioned, solar will be utilized, as well as geo-thermal heating and cooling, energy efficient windows, sustainable interior products, sedum roof installation, and roof overhangs which help to aid in the heating & cooling needs for the building. In addition, the large greenhouse is intended to help grow plants and food for the residents and workers.

A stormwater management report has been prepared by EBI Consulting and is part of the Applicant's submittal to the Board and that report indicates that the site lies within the Alewife Brook Watershed but is not located within the 100-year flood plain and is not located within a flood zone as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Town of Arlington, Map# 25017C0419E, dated June 4, 2010 shown as Exhibit 3 in the stormwater management report.

The report also indicates that there are no known wetland resource areas or associated buffers located on the site.

The substance of the report also indicates that the proposed site layout will direct water runoff to drainage structures within the paved driveway with the result that there will be a decrease in impervious areas and the report also indicates that the onsite closed pipe drainage system has been designed for the 25-year storm event in accordance with Town of Arlington requirements. Details with respect to the sizing of the drainage pipes are set forth in the paragraph entitled “Hydraulic Analysis” on Page 5 of 11 of the report.

The conclusion on the part of representatives of EDI Consulting is that “the redevelopment project will result in an improvement of stormwater runoff, quality and quantity”.

The traffic study of Nitsch Engineering dated December 22, 2020 indicates in part that 3 intersections, Alewife Brook Parkway, Broadway, and Sunnyside Ave., 1 signalized and 2 unsignalized were studied to establish the impact the proposal would have on intersection traffic operations.

The crash data over the last three years available from MassDOT indicates that the intersection of Alewife Brook Parkway and Broadway was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities *were* reported at any of the study area intersections over the five-year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Alewife Brook Parkway and Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing. The Broadway at Sunnyside Avenue intersection is not listed as a HSIP location and has a crash rate below the MassDOT average.

The substance of the report indicates the following: “We collected turning movement counts at the three study intersections. We adjusted the counts

upward to account for the COVID-19 pandemic's effect on traffic patterns to become our baseline Existing conditions traffic volumes."

For future conditions, we projected the Existing conditions traffic volumes over a seven-year period to the horizon year 2027 using an annual growth rate of 2.0% based on expected regional growth to become our future No-Build conditions volumes. We estimated the quantity of vehicle trips the proposed development would generate based on the Institute of Transportation Engineers (ITE) *Trip Generation, 10^{1h} Edition* criteria."

The report further indicates: "We performed a vehicle capacity analysis to compare the weekday morning and weekday evening peak hours of the 2020 Existing conditions, 2027 No-Build conditions, and 2027 Build conditions for each of the three study intersections. Under all conditions, the intersection of Alewife Brook Parkway and Broadway will operate poorly with most of the movements operating at LOS F. However, all movements for both intersections in Build condition will continue to operate at No-Build conditions with only minor increases in delay and queuing. The intersection of Sunnyside Avenue and the site driveway will operate at LOS A for all movements."

The traffic study concludes: "As the project is not anticipated to have a significant impact to traffic operations at the study intersections, no mitigation is recommended at this time."

This project is intended to be something unique for Arlington, but also act as a catalyst for future developments in the immediate area of Sunnyside Avenue. The Applicant looks forward to presenting the proposed development to the Town and working together toward a successful development at the site which as stated previously will remove a blighted property from the

neighborhood and replace it with an attractive alternative and remove an automobile use which is encouraged by the provisions of Section 5.5.1, further Section B4.

LEED v4 for Building Design and Construction: Multifamily Midrise

Project Checklist

Project Name: 10 Sunnyside Avenue Residence and Office
Date:01/07/2021

Y	?	N			
			Credit	Integrative Process	2

4	3	8	**Location and Transportation**		15
Y			Prereq	Floodplain Avoidance	Required
			PERFORMANCE PATH		
			Credit	LEED for Neighborhood Development Location	15
			PRESCRIPTIVE PATH		
		8	Credit	Site Selection	8
	3		Credit	Compact Development	3
2			Credit	Community Resources	2
2			Credit	Access to Transit	2

0	5	0	**Sustainable Sites**		7
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	No Invasive Plants	Required
2			Credit	Heat Island Reduction	2
3			Credit	Rainwater Management	3
		2	Credit	Non-Toxic Pest Control	2

4	6	0	**Water Efficiency**		12
Y			Prereq	Water Metering	Required
			PERFORMANCE PATH		
			Credit	Total Water Use	12
			PRESCRIPTIVE PATH		
	6		Credit	Indoor Water Use	6
4			Credit	Outdoor Water Use	4

37	0	0	**Energy and Atmosphere**		37
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Energy Metering	Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Required
30			Credit	Annual Energy Use	30
5			Credit	Efficieng Hot Water Distribution	5
2			Credit	Advanced Utility Tracking	2

9	0	0	**Materials and Resources**		9
Y			Prereq	Certified Tropical Wood	Required
Y			Prereq	Durability Management	Required
1			Credit	Durability Management Verification	1
5			Credit	Environmentally Preferable Products	5
3			Credit	Construction Waste Management	3

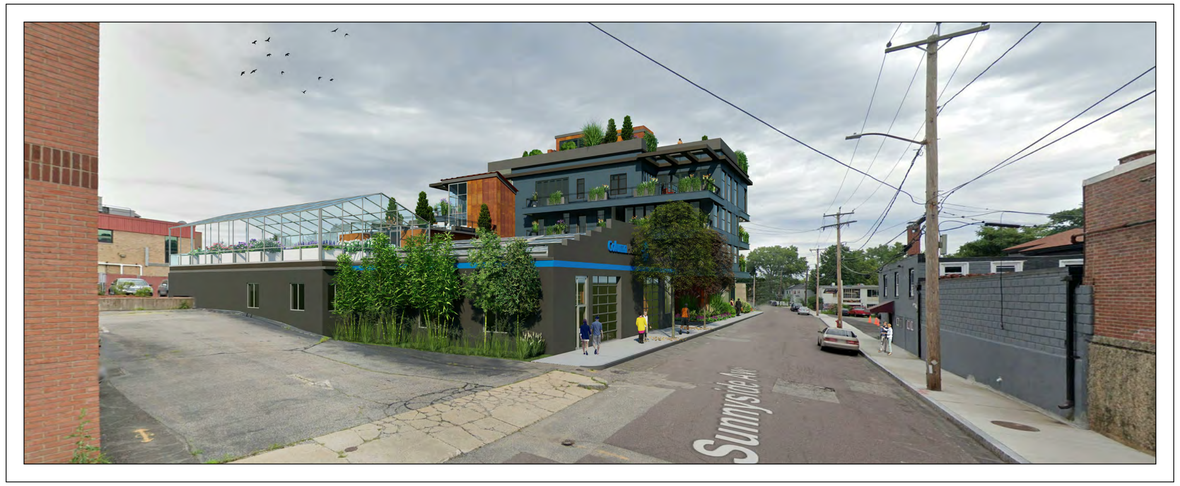
16	3	0	**Indoor Environmental Quality**		18
Y			Prereq	Ventilation	Required
Y			Prereq	Combustion Venting	Required
Y			Prereq	Garage Pollutant Protection	Required
Y			Prereq	Radon-Resistant Construction	Required
Y			Prereq	Air FIltering	Required
Y			Prereq	Environmental Tobacco Smoke	Required
Y			Prereq	Compartmentalization	Required
	3		Credit	Enhanced Ventilation	3
3			Credit	Contaminant Control	2
3			Credit	Balancing of Heating and Cooling Distribution Systems	3
3			Credit	Enhanced Compartmentalization	3
2			Credit	Enhanced Combustion Venting	2
1			Credit	Enhanced Garage Pollutant Protection	1
3			Credit	Low Emitting Products	3
1			Credit	No Environmental Tobacco Smoke	1

5	0	0	**Innovation**		6
Y			Prereq	Preliminary Rating	Required
5			Credit	Innovation	5
			Credit	LEED AP Homes	1

0	0	0	**Regional Priority**		4
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1

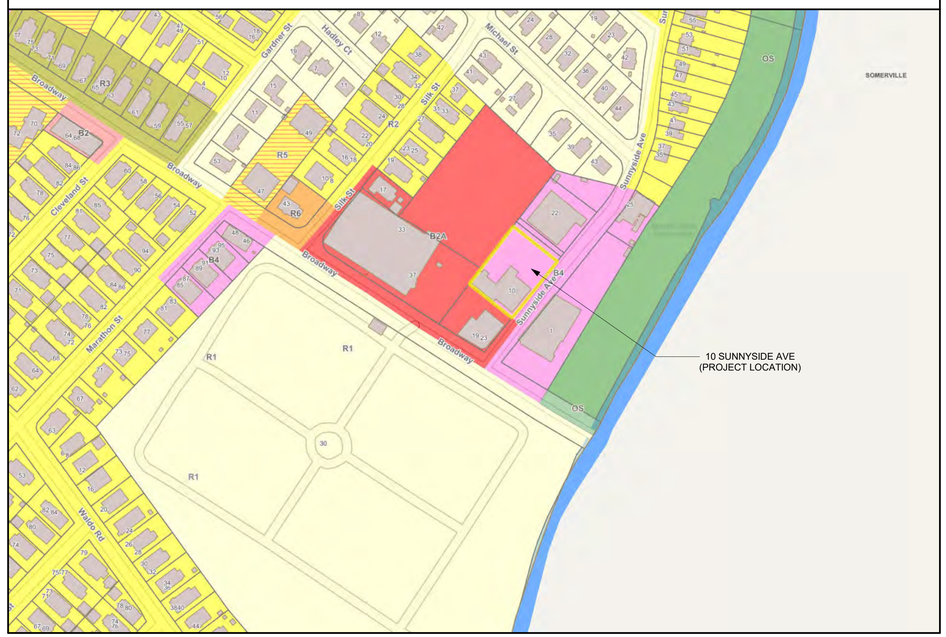
75	17	8	**TOTALS**	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110



SUBMISSION TO TOWN OF ARLINGTON
12-08-2020

LOCUS PLAN



PROJECT:
COLUMN HEALTH OFFICES & RESIDENTS

PROJECT ADDRESS:
10 SUNNYSIDE AVENUE
ARLINGTON MASSACHUSETTS

ARCHITECT
KHALSA DESIGN INC.
17 IVALOO STREET, SUITE 400
SOMERVILLE, MA 02143
617-591-8682

CLIENT
COLUMN HEALTH LLC
339 MASSACHUSETTS AVE
ARLINGTON, MA 02474
617-539-6780

Architectural Drawing List

Sheet Number	Sheet Name	Sheet Issue Date
A-000	Cover Sheet	12/08/20
SV-1	Existing Conditions Plan	12/07/20
C-1	Civil Title Sheet	12/07/20
C-2	Legend and General Notes	12/07/20
C-3	Layout & Materials Plan	12/07/20
C-4	Grading & Drainage Plan	12/07/20
C-5	Utilities Plan	12/07/20
C-6	Erosion Control & Sedimentation Plan	12/07/20
C-7	Site Details 1	12/07/20
C-8	Site Details 2	12/07/20
A-020	Architectural Site Plan	12/08/20
A-021	Apartments Gross Area Plan	12/08/20
A-022	Offices Gross Area Plan	12/08/20
A-101	Residential - First Floor Plan	12/08/20
A-102	Residential - Second Floor Plan	12/08/20
A-103	Residential - Third Floor Plan	12/08/20
A-104	Residential - Fourth Floor Plan	12/08/20
A-105	Residential - Roof Deck Floor Plan	12/08/20
A-106	Commercial - Basement Floor Plan	12/08/20
A-109	Commercial - Green House / Cafe Floor Plan	12/08/20
A-110	Commercial - Roof Deck Floor Plan	12/08/20
A-300	Residential -Front Elevation	12/08/20
A-301	Residential - Rear Elevation	12/08/20
A-302	Residential - Left Side Elevation	12/08/20
A-303	Residential - Right Side Elevation	12/08/20
A-304	Commercial - Front & Rear Elevations	12/08/20
A-305	Commercial - Left & Right Elevations	12/08/20
A-306	Perspectives #1	12/08/20
A-307	Perspectives #2	12/08/20
A-308	Realistic Rendering	12/08/20
A-309	Realistic Rendering	12/08/20
A-310	Realistic Perspectives	12/08/20

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
MATTHEW BAUER
NO. 6843
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	

REVISIONS

No.	Description	Date

Cover Sheet

A-000

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt

12/8/2020 10:43:36 AM

UTILITY NOTE

THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND ARE BASED UPON A FIELD SURVEY AND A COMPILATION OF AVAILABLE PLANS OF RECORD FROM THE VARIOUS UTILITY COMPANIES. THE INFORMATION PROVIDED IS FOR THE USE OF THE CONTRACTOR. NEITHER WARRANTY NOR GUARANTEE OF THE INFORMATION IS PROVIDED. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES BY CONTACTING THE RESPECTIVE UTILITY COMPANIES AND 'DIG-SAFE' (1-888-344-7233) PRIOR TO CONSTRUCTION.

GAS ——— G ———
TELEPHONE ——— T ———
ELECTRIC ——— E ———

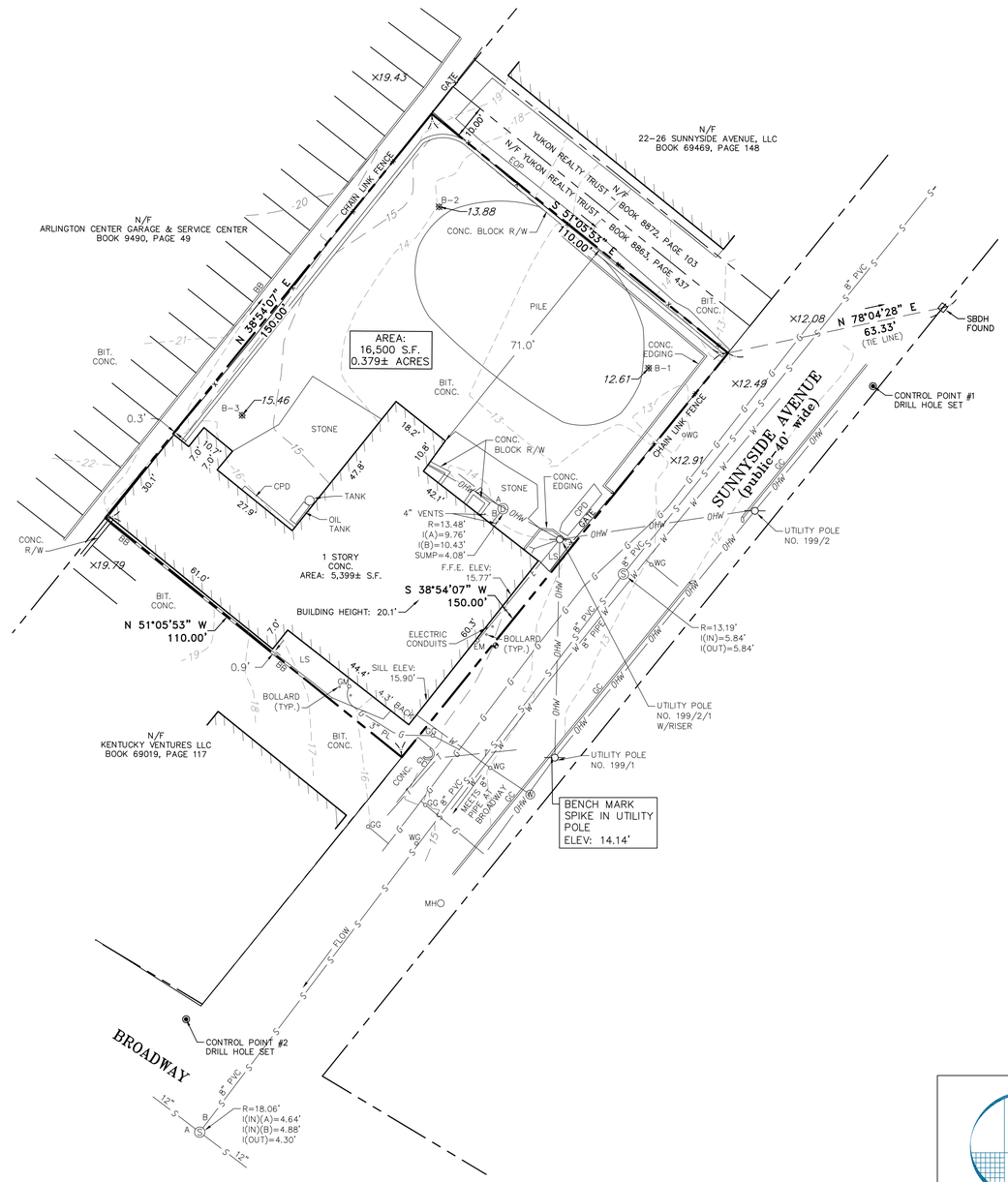
WATER ——— W ———
SEWER ——— S ———

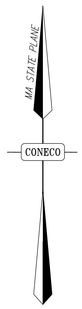
PLAN REFERENCES

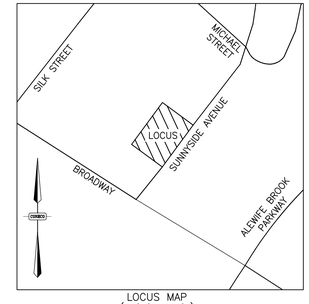
1. BOOK 3202, PAGE END
2. BOOK 2637, PAGE 301
3. PLAN NO. 1177 OF 1946
4. PLAN NO. 415 OF 1947
5. PLAN NO. 345 OF 1957
6. PLAN NO. 723 OF 1955

LEGEND

⊡ SBDH	STONE BOUND DRILL HOLE
o GM	GAS METER
o GG	GAS GATE
o WG	WATER GATE
—○—	UTILITY POLE
Ⓢ	SEWER MANHOLE
Ⓓ	DRAIN MANHOLE
Ⓦ	WATER MANHOLE
◯MH	MANHOLE
⊕	MONITORING WELL
⊕ B-1	SOIL BORING
LS	LANDSCAPING
R/W	RETAINING WALL
BB	BITUMINOUS BERM
BIT. CONC.	BITUMINOUS CONCRETE
CONC.	CONCRETE
CPD	CONCRETE PAD
GC	GRANITE CURB
EOP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
PL	PLASTIC
R	RIM
I	INVERT
CLF ——x——	CHAIN LINK FENCE
OHW ——OHW——	OVERHEAD WIRES
	PROPERTY LINE







LOCUS MAP
(not to scale)

ZONING NOTES:

Zoning District: "B4" Vehicular Oriented Business District

Minimum Lot Size: None
Minimum Frontage: 50 feet
Minimum Open Space: None
Maximum Floor Area Ratio: 1.5
Front Yard Setback: None
Rear Yard Setback: 13 Feet
Side Yard Setback: None
Maximum Building Height: 4 stories or 50 feet

NOTES:

1. VERTICAL DATUM: NAVD 88.
2. LOCUS PROPERTY IS IN ZONE X AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25017C0417E DATED JUNE 4, 2010.

I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL, AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

TIMOTHY S. BODAH, PLS

OWNER OF RECORD:
MB REALTY GROUP LLC
PARCEL ID: 33-2-2.B
BOOK 73883, PAGE 259

NO.	DATE	DESCRIPTION	BY

REVISIONS

CONECO
Engineers & Scientists
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324
PHONE 508-697-3191 OR 800-548-3355; FAX 508-697-5996
WEBSITE: www.coneco.com

20' 0 20' 40'
SCALE IN FEET

EXISTING CONDITIONS PLAN

10 SUNNYSIDE AVENUE
ARLINGTON, MA

PREPARED FOR:	EBI CONSULTING		
SCALE	DATE	ACAD FILE	JOB NO.
1" = 20'	11/09/2020	11157.DWG	11157

Site Plans
for
Column Health Offices & Residences
10 Sunnyside Avenue, Arlington, MA

Issued For: Local Approvals
Date Issued: December 7, 2020

SHEET INDEX

EBI Consulting Drawings

SHEET NO.	SHEET TITLE	LATEST ISSUE
C-1	Title Sheet	12/7/2020
C-2	Legend & General Notes	12/7/2020
C-3	Layout & Materials Plan	12/7/2020
C-4	Grading & Drainage Plan	12/7/2020
C-5	Utilities Plan	12/7/2020
C-6	Erosion Control & Sedimentation Plan	12/7/2020
C-7	Site Details 1	12/7/2020
C-8	Site Details 2	12/7/2020

Reference Drawings

SHEET NO.	SHEET TITLE	LATEST ISSUE
Sv-1	Existing Conditions Plan	6/12/2015

Dig Safe Systems, Inc.
1-888-DIG-SAFE
(1-888-344-7233)

LOCUS MAP



Source: MassGIS

PROPERTY INFORMATION

OWNER
Column Health LLC
339 Massachusetts Avenue
Arlington, MA 02474
Tel: 617-539-6780
www.coneco.com

APPLICANT
Column Health LLC
339 Massachusetts Avenue
Arlington, MA 02474
Tel: 617-539-6780
www.coneco.com

ASSESSOR'S INFORMATION
Map #033.0, Lot #0002.B

PROJECT TEAM

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COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER M. MANNUZZI
CIVIL
No. 41384
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
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Colin Beatty
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Tel: (617) 539-6780
cbeatty@columnhealth.com

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DRAWING SCALES NOTED ARE FOR 24" x 36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Title Sheet

SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-1

LEGEND

General

- PROPERTY LINE
- RIGHT-OF-WAY
- INTERNAL LOT LINE
- ABUTTING PROPERTY LINE
- EASEMENT
- BLSF — BORDERING LAND SUBJECT TO FLOODING
- 200'RA — 200' RIVERFRONT AREA
- 100'RA — 100' RIVERFRONT AREA
- 100'BZ — 100' WETLAND BUFFER ZONE
- NDZ — NO DISTURB ZONE
- LIMIT OF DISTURBANCE
- BORING LOCATION (BL 10 EL=98.5)
- MONITORING WELL (MW 2 EL=100.5)
- TEST PIT LOCATION (TP 5 EL=112.7)
- MATCHLINE

Layout and Materials

- BUILDING (100'–6")
- BUILDING ENTRANCE (EN)
- LOADING DOCK (LD)
- PARKING GARAGE (PG)
- BUILDING SETBACK
- BASELINE (50+00)
- LIMIT OF WORK
- SAWCUT LINE
- GRAVEL ROAD
- EDGE OF PAVEMENT (EOP)
- VERTICAL GRANITE CURB (VGC)
- LIMIT OF CURB TYPE (VGC / PCC)
- CONCRETE SIDEWALK (VGC)
- PAVER SIDEWALK (VGC)
- LANDSCAPE BUFFER
- PARKING SETBACK
- TOTAL PARKING COUNT (50)
- STANDARD STALL COUNT (20)
- COMPACT STALL COUNT (C10)
- ACCESSIBLE PARKING
- VAN ACCESSIBLE PARKING (VAN)
- ACCESSIBLE CURB RAMP
- CROSSWALK
- PARKING BUMPER
- DIRECTIONAL SIGN
- BOLLARD
- PEDESTRIAN LIGHT POLE
- PARKING LOT LIGHT POLE
- UTILITY POLE
- GUY POLE
- OVERHEAD WIRE (OHW)
- RETAINING WALL
- STONE WALL
- BARB WIRE FENCE
- CHAIN LINK FENCE
- CONSTRUCTION FENCE
- STOCKADE FENCE
- STEEL GUARDRAIL
- WOOD GUARDRAIL
- PATH
- TREE LINE

Erosion Control

- EROSION CONTROL BARRIER
- STRAW BALES
- STABILIZED CONSTRUCTION EXIT
- SILT SACK SEDIMENT TRAP

Grading

- MAJOR CONTOUR (10)
- MINOR CONTOUR (1)
- SPOT ELEVATION (100.5 TC / 100.0 BC)
- DETENTION BASIN
- SWALE
- BIORETENTION AREA
- 100-YEAR FLOOD ELEVATION
- 10-YEAR FLOOD ELEVATION
- RIPRAP SLOPE

Drainage

- DRAIN (12"D)
- ROOF DRAIN (6"RD)
- UNDER DRAIN (6"UD)
- SINGLE CATCH BASIN
- DOUBLE CATCH BASIN
- DRAIN MANHOLE
- CLEANOUT (CO)
- INSPECTION PORT (INSP)
- DOWNSPOUT (DS)
- FLARED END SECTION
- HEADWALL
- RIPRAP OUTFALL

Utilities

- SEWER (6"S)
- FORCE MAIN (FM)
- SEWER MANHOLE
- PLUG OR CAP
- WATER (6"W)
- DOMESTIC WATER (2"DW)
- FIRE PROTECTION (6"FP)
- CURB STOP AND BOX (CS)
- FIRE HYDRANT (HYD)
- POST INDICATOR VALVE (PIV)
- REDUCER (8"W – 6"W)
- SHUT-OFF VALVE
- SIAMESE CONNECTION
- TAPPING SLEEVE AND VALVE (TSV)
- WATER VALVE AND BOX (WV)
- WATER METER (WM)
- GAS (G)
- GAS GATE (GG)
- GAS METER (GM)
- UNDERGROUND ELECTRIC (UGE)
- ELECTRIC MANHOLE (EMH)
- ELECTRIC METER (EM)
- TRANSFORMER PAD (T)
- UNDERGROUND TELEPHONE (UGT)
- TELEPHONE MANHOLE (TMH)
- CABLE TV (CATV)
- FIBER OPTICS (FO)
- CONDUIT
- HAND HOLE (HH)
- PULL BOX (PB)

ABBREVIATIONS

General

ACR	ACCESSIBLE CURB RAMP
ADA	AMERICANS WITH DISABILITIES ACT
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BC	BOTTOM OF CURB
BCB	BITUMINOUS CONCRETE BERM
BCC	BITUMINOUS CONCRETE CURB
BIT	BITUMINOUS
BLDG	BUILDING
BLSF	BORDERING LAND SUBJECT TO FLOODING
BOT	BOTTOM
BS	BOTTOM OF SLOPE
BW	BOTTOM OF WALL
BWLL	BROKEN WHITE LANE LINE
CCB	CAPE COD BERM
CLF	CHAIN LINK FENCE
CONC	CONCRETE
DPW	DEPARTMENT OF PUBLIC WORKS
DYCL	DOUBLE YELLOW CENTER LINE
ECC	EXTRUDED CONCRETE CURB
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EX	EXISTING
EXIST	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
HP	HIGH POINT
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
LOW	LIMIT OF WORK
LP	LOW POINT
MAX	MAXIMUM
MCC	MONOLITHIC CONCRETE CURB
ME	MATCH EXISTING
MIN	MINIMUM
NDZ	NO DISTURB ZONE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PCC	PRECAST CONCRETE CURB
PL	PROPERTY LINE
PROP	PROPOSED
R	RADIUS
RA	RIVERFRONT AREA
REM	REMOVE
RET	RETAIN
ROW	RIGHT-OF-WAY
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SGE	SLOPED GRANITE EDGING
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TC	TOP OF CURB
TR	TRASH BAY
TS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
VGC	VERTICAL GRANITE CURB

Utilities

ABAN	ABANDON
ADJ	ADJUST
CATV	CABLE TV
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COND	CONDUIT
CS	CURB STOP AND BOX
DIA	DIAMETER
DCB	DOUBLE CATCH BASIN
DET	DETENTION
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
DS	DOWNSPOUT
DW	DOMESTIC WATER
EMH	ELECTRIC MANHOLE
FA	FIRE ALARM
FES	FLARED END SECTION
FP	FIRE PROTECTION
FM	FORCE MAIN
FO	FIBER OPTICS
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
GG	GAS GATE
GI	GUTTER INLET
GM	GAS METER
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HAND HOLE
HW	HEADWALL
HYD	HYDRANT
INF	INFILTRATION
INSP	INSPECTION PORT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
MES	METAL END SECTION
MW	MONITORING WELL
OHW	OVERHEAD WIRE
PB	PULL BOX
PIV	POST INDICATOR VALVE
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
R=	RIM ELEVATION
SAS	SOIL ABSORPTION SYSTEM
SCB	SINGLE CATCH BASIN
SLP	SITE LIGHT POLE
SMH	SEWER MANHOLE
SYS	SYSTEM
TMH	TELEPHONE MANHOLE
TSV	TAPPING SLEEVE, VALVE, AND BOX
UD	UNDERDRAIN
UG	UNDERGROUND
UP	UTILITY POLE
WM	WATER METER
WQI	WATER QUALITY INLET
WQS	WATER QUALITY STRUCTURE
WV	WATER VALVE AND BOX

GENERAL NOTES

General Information:

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY, CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS, AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS, AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.

Existing Conditions:

1. THE EXISTING CONDITIONS SHOWN ARE BASED ON THE EXISTING CONDITIONS SURVEY PREPARED BY CONECO ENGINEERS & SCIENTISTS, 4 FIRST STREET, BRIDGEWATER, MA 02324, 508-697-3191, WWW.CONECO.COM.
2. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND COMPILED FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES.

Erosion Control:

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Demolition:

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS, REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE, AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

Layout and Materials:

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURBING SHALL BE PRECAST CONCRETE CURB (PCC) AND CURB RADII SHALL BE THREE FEET (3') WITHIN THE SITE, UNLESS OTHERWISE INDICATED ON THE SITE PLANS.
3. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
4. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
5. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURER'S LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
6. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Utilities:

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR IT'S REPRESENTATIVES HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF ALL CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FORM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY UTILITIES COMPANY.
4. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
   - A. STORM DRAINAGE PIPES SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35 SEWER PIPE
   - B. SANITARY SEWER PIPES SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35 SEWER PIPE
   - C. WATER PIPES SHALL BE COPPER TYPE K OR CEMENT LINED DUCTILE IRON, CLASS 52, AS NOTED.

EBI Consulting
environmental | engineering | due diligence
2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: 781.273.2500
www.ebiconsulting.com

COMMONWEALTH OF MASSACHUSETTS — CHRISTOPHER M. IANNUZZI — CIVIL — No. 41304 — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

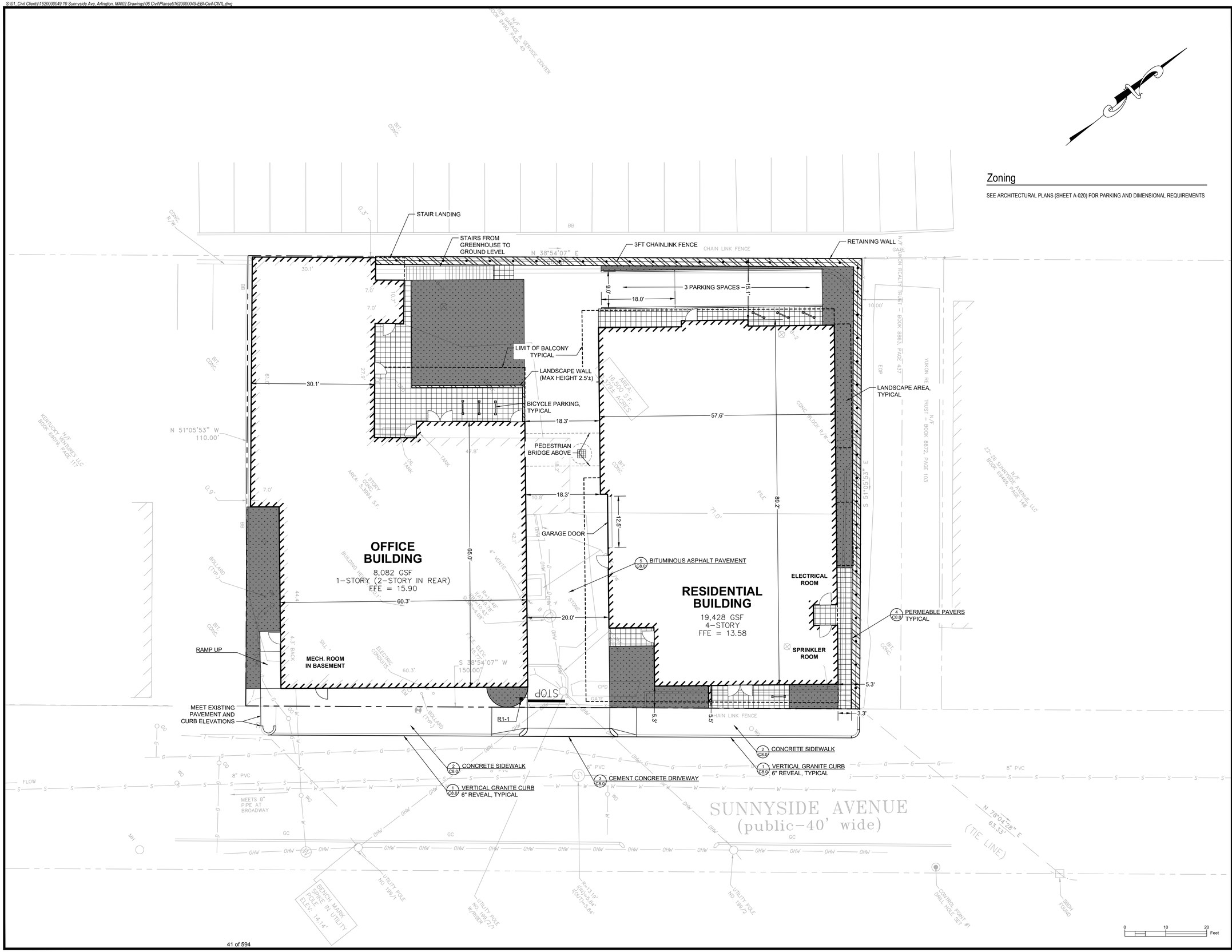
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Legend & General Notes

SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO:
C-2
2 OF 8



Zoning

SEE ARCHITECTURAL PLANS (SHEET A-020) FOR PARKING AND DIMENSIONAL REQUIREMENTS

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COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER M. IANNUZZI
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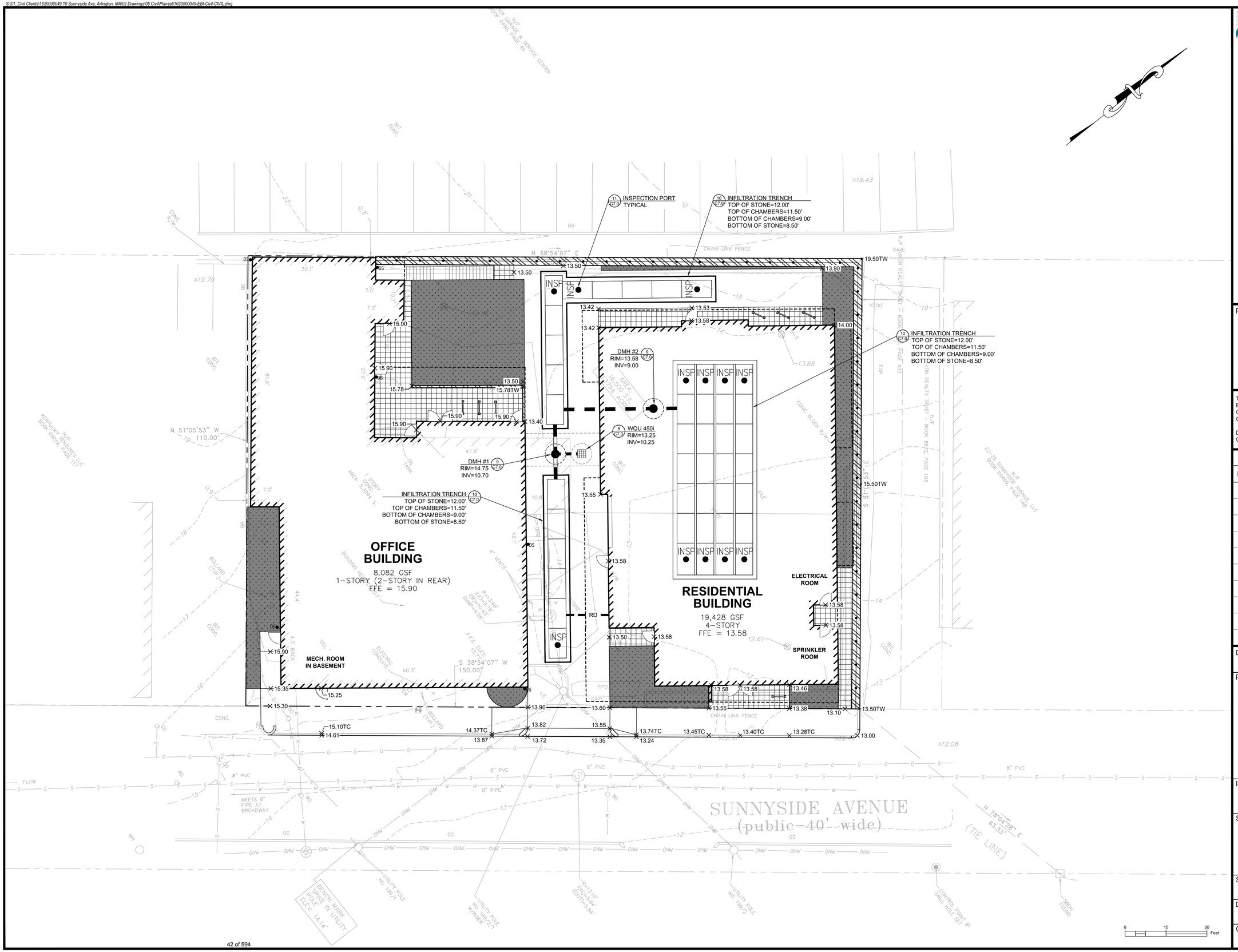
PROJECT TITLE:
Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Layout & Materials Plan

SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC
SHEET NO: C-3
3 OF 8



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COMMONWEALTH OF MASSACHUSETTS
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PROJECT NUMBER: 1620000049

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Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

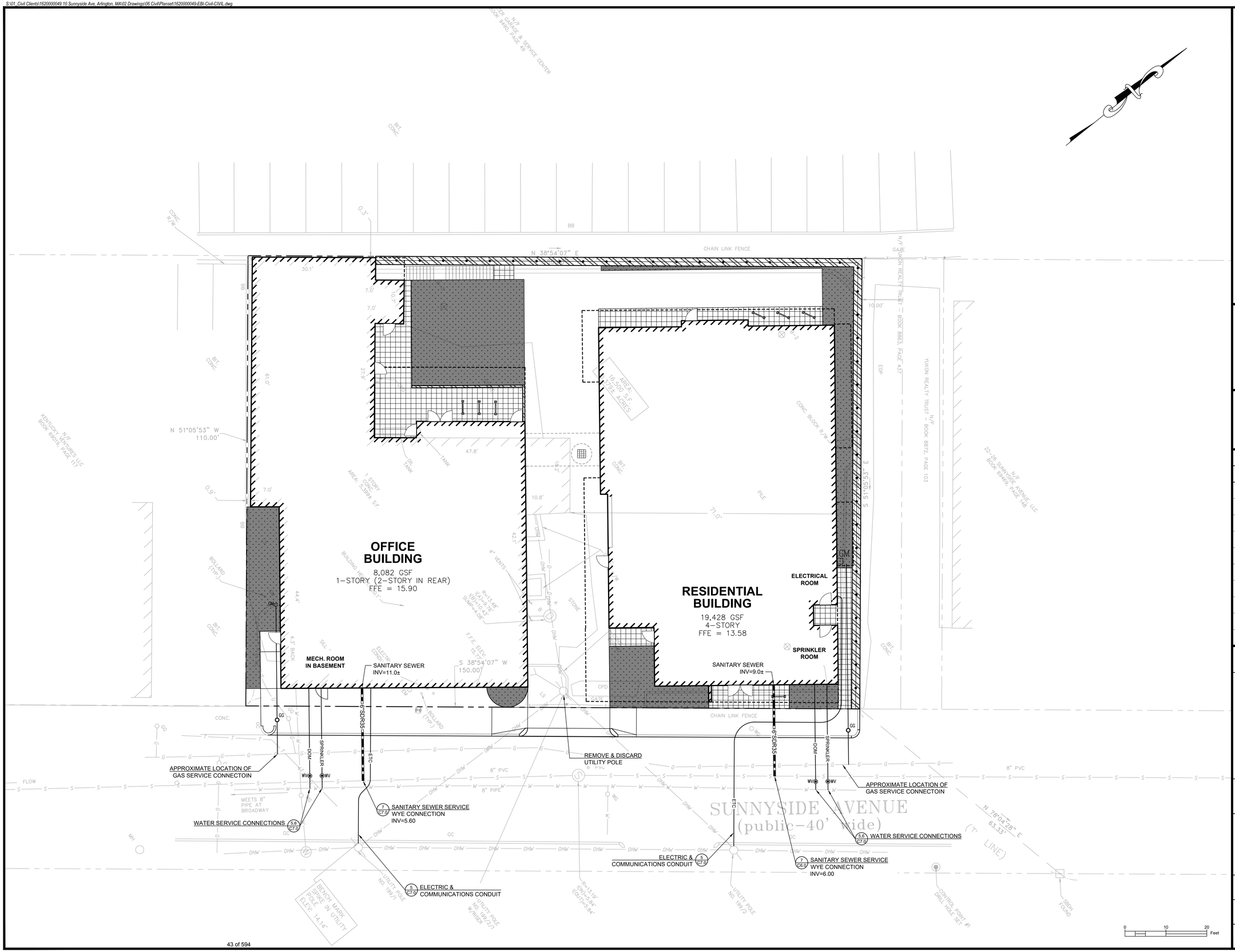
ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Grading, Drainage, & Erosion Control Plan

SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-4

S:\01_Civil Clients\1620000049 10 Sunnyside Ave, Arlington, MA\02 Drawings\06 Civil\Planset\1620000049-EBI-Civil-CIVIL.dwg



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DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

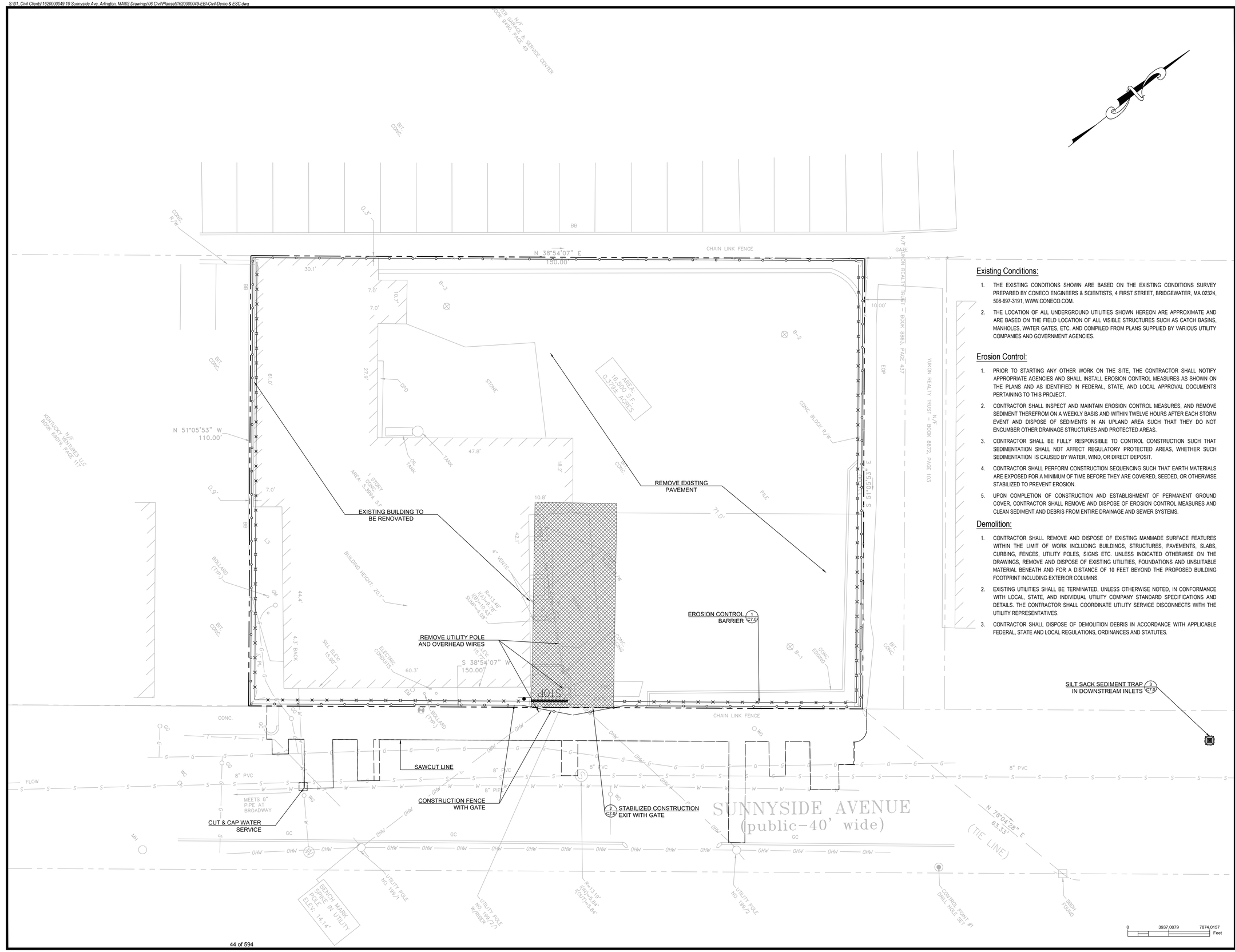
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Utilities Plan

SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-5
5 OF 8



Existing Conditions:

1. THE EXISTING CONDITIONS SHOWN ARE BASED ON THE EXISTING CONDITIONS SURVEY PREPARED BY CONECO ENGINEERS & SCIENTISTS, 4 FIRST STREET, BRIDGEWATER, MA 02324, 508-697-3191, WWW.CONECO.COM.
2. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND COMPILED FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES.

Erosion Control:

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Demolition:

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS, REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE, AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

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NO.	DATE	DESCRIPTION	BY

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PROJECT NUMBER: 1620000049

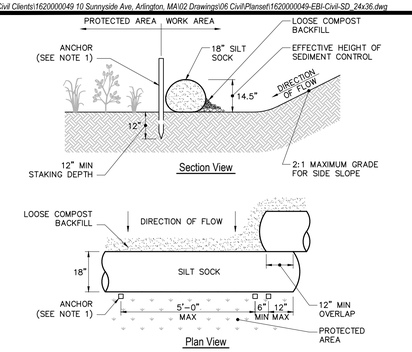
PROJECT TITLE:
Column Health Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Demo and Sedimentation & Erosion Control Plan

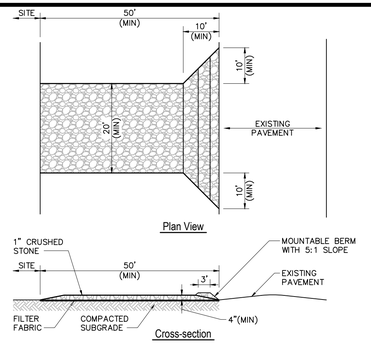
SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC
SHEET NO: C-6
3 OF 8



CONSTRUCTION NOTES

1. ANCHOR TO BE A 2" X 2" X 36" HARD WOOD STAKE, OR APPROVED EQUAL.
2. COMPOST FOR SILT SOCK FILL MATERIAL TO BE PROVIDED BY THE MANUFACTURER IN CONJUNCTION WITH THE ENGINEER TO PROVIDE THE REQUIRED REMOVAL OF SEDIMENT OR OTHER POLLUTANTS FROM RUNOFF.
3. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE LOCAL CONSERVATION AGENT OR THE DESIGN ENGINEER.
4. SILT SOCK SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS OR PER LOCAL AND STATE REQUIREMENTS. REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY, AS NEEDED.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.

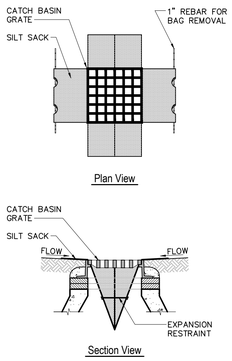
SILT SOCK - EROSION CONTROL BARRIER
SCALE:N.T.S. — 1



CONSTRUCTION NOTES

1. ENTRANCE WIDTH SHALL BE A TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED PRIOR TO FINAL FINISHED MATERIALS BEING INSTALLED.

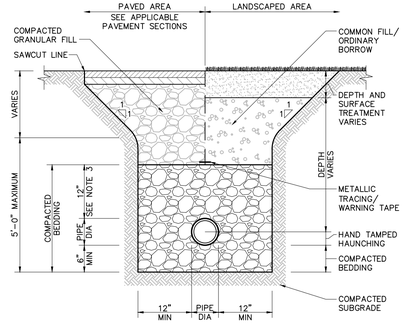
STABILIZED CONSTRUCTION EXIT
SCALE:N.T.S. — 2



CONSTRUCTION NOTES

1. INSTALL SILT SACKS IN ALL CATCH BASINS WHERE INDICATED ON THE SITE PLANS BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER THE BINDER COURSE IS PLACED AND EROSION CONTROL BARRIERS HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACKS SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS. CLEANING OR REPLACEMENT SHALL BE PERFORMED AS NEEDED. MAINTAIN SILT SACKS UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.

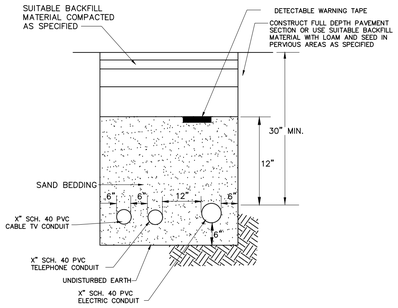
SILT SACK - INLET PROTECTION
SCALE:N.T.S. — 3



CONSTRUCTION NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
3. FOR HIGH DENSITY POLYETHYLENE (HDPE) PIPE, DIMENSION IS 24 INCHES.

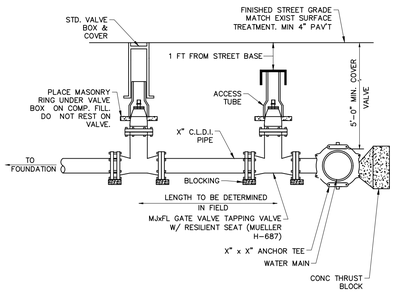
UTILITY TRENCH
SCALE:N.T.S. — 4



NOTE:

1. FINAL SIZE, LOCATION AND NUMBER OF CONDUITS SHALL BE DETERMINED BY THE SERVICE PROVIDER.
2. ELECTRIC CONDUIT UNDER PAVEMENT AREAS SHALL BE GALVANIZED STEEL OR ENCASED 6" OF CONCRETE ON ALL SIDES.

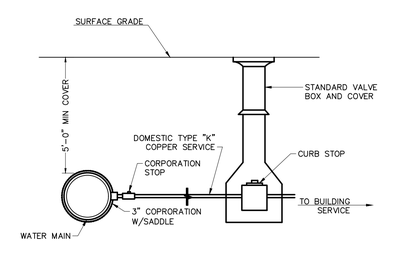
ELECTRIC & COMMUNICATIONS CONDUITS
N.T.S. — 5



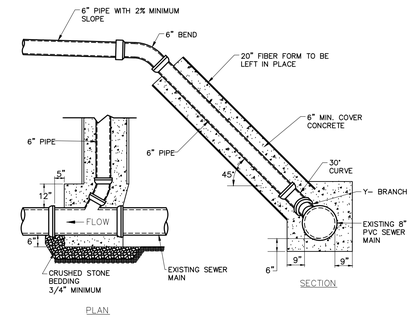
CONSTRUCTION NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH, AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHODS OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.

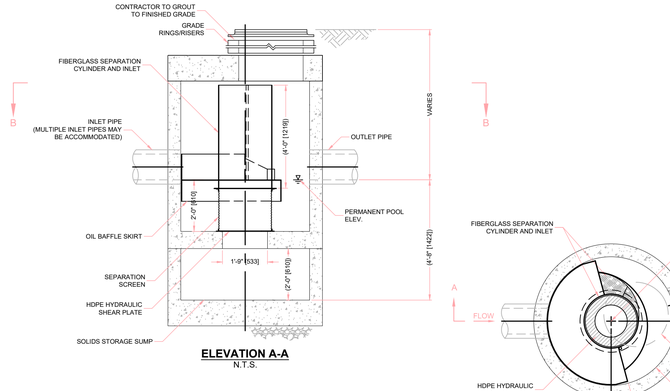
FIRE PROTECTION TEE CONNECTION
SCALE:N.T.S. — 5



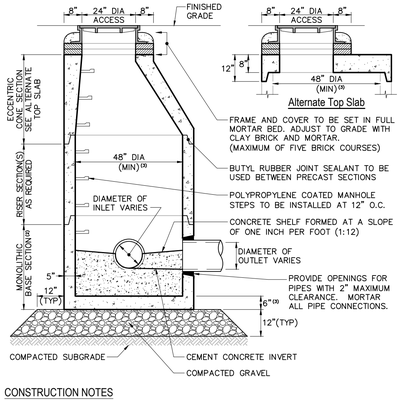
DOMESTIC WATER SERVICE CONNECTION
N.T.S. — 6



SANITARY SEWER SERVICE WYE CONNECTION
N.T.S. — 7



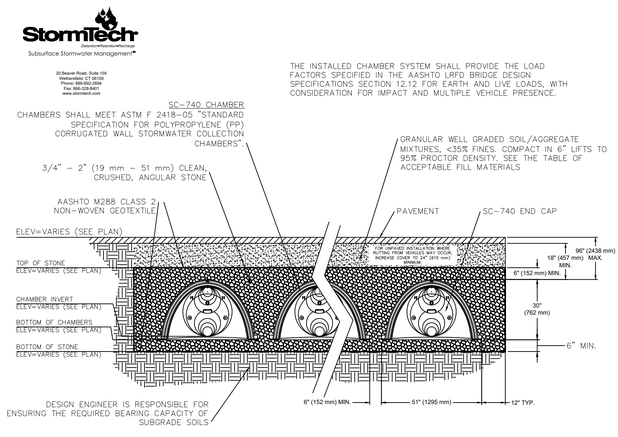
WATER QUALITY UNIT (RINKER 450i)
N.T.S. — 8



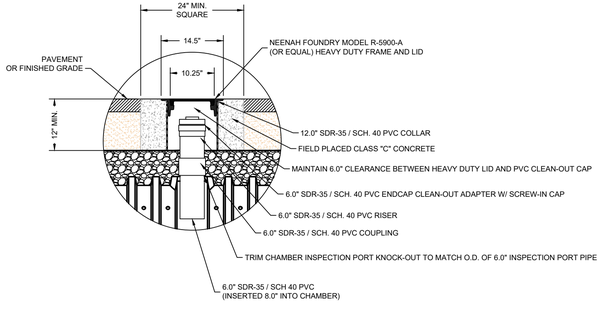
CONSTRUCTION NOTES

1. STRUCTURE TO BE PRECAST CONCRETE, MINIMUM 4,000 PSI. ALL SECTIONS TO BE DESIGNED TO MEET OR EXCEED HS-20 LOADING.
2. BASE TO BE SINGLE POUR MONOLITHIC SECTION.
3. 60" (5'-0") INSIDE DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET. 6" MINIMUM WALL THICKNESS AND 8" MINIMUM BASE THICKNESS FOR 5'-0" DIAMETER PRECAST MANHOLE.

DRAIN MANHOLE (DMH)
SCALE:N.T.S. — 9



INFILTRATION TRENCH - STORMTECH CHAMBERS (SC-740)
SCALE:N.T.S. — 10



INSPECTION PORT
N.T.S. — 11

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health Offices & Residences

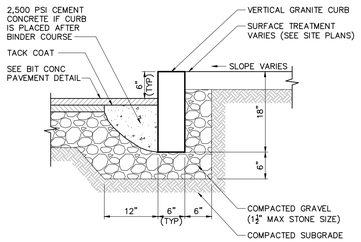
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Site Details 1

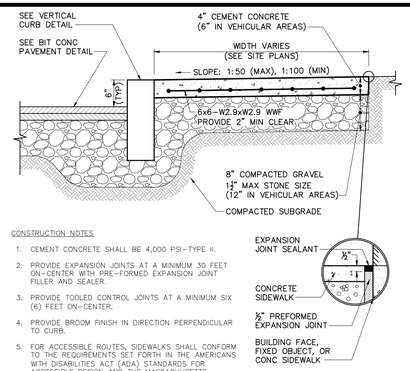
SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-7
6 OF 8



VERTICAL GRANITE CURB (VGC)

SCALE:N.T.S. — 1



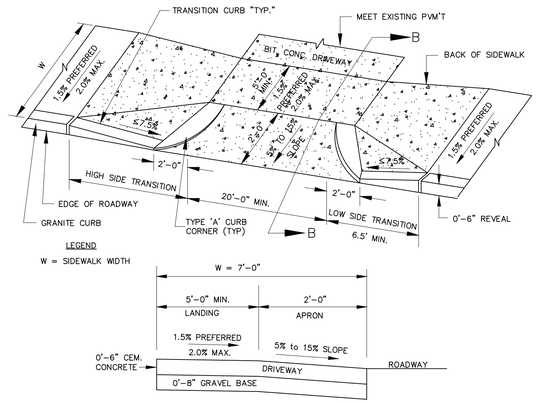
Expansion Joint Detail

CONSTRUCTION NOTES

1. CEMENT CONCRETE SHALL BE 4,000 PSI–TYPE II.
2. PROVIDE EXPANSION JOINTS AT A MINIMUM 30 FEET ON–CENTER WITH PRE–FORMED EXPANSION JOINT FILLER AND SEALER.
3. PROVIDE TOOLED CONTROL JOINTS AT A MINIMUM SIX (6) FEET ON–CENTER.
4. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
5. FOR ACCESSIBLE ROUTES, SIDEWALKS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) RULES AND REGULATIONS (521 CMR).
6. FOR ACCESSIBLE ROUTES, THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE GREATER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACES SHALL NOT BE GREATER THAN 1:50 OR LESS THAN 1:100.
7. FOR ACCESSIBLE ROUTES, WHERE THE SIDEWALK IS LESS THAN FIVE (5) FEET IN WIDTH, EXCLUDING CURBING, A 5' X 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
8. FOR ACCESSIBLE ROUTES, A MINIMUM CLEARANCE OF THREE (3) FEET SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE; HYDRANTS, UTILITY POLES, SIGN POSTS, ETC.

CEMENT CONCRETE SIDEWALK

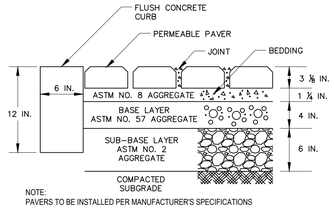
SCALE:N.T.S. — 2



SECTION B–B

CEMENT CONCRETE DRIVEWAY

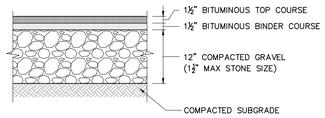
SCALE:N.T.S. — 3



NOTE:
PAVERS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS

PERMEABLE PAVERS

N.T.S. — 5



Standard Duty Flexible Pavement

CONSTRUCTION NOTES

1. PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

BITUMINOUS CONCRETE PAVEMENT

SCALE:N.T.S. — 5

EBI Consulting
environmental | engineering | due diligence
2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: 781.273.2500
www.ebiconsulting.com

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER M. LANNUZZI
CIVIL
No. 41304
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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DRAWING SCALES NOTED ARE FOR 24" x 36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

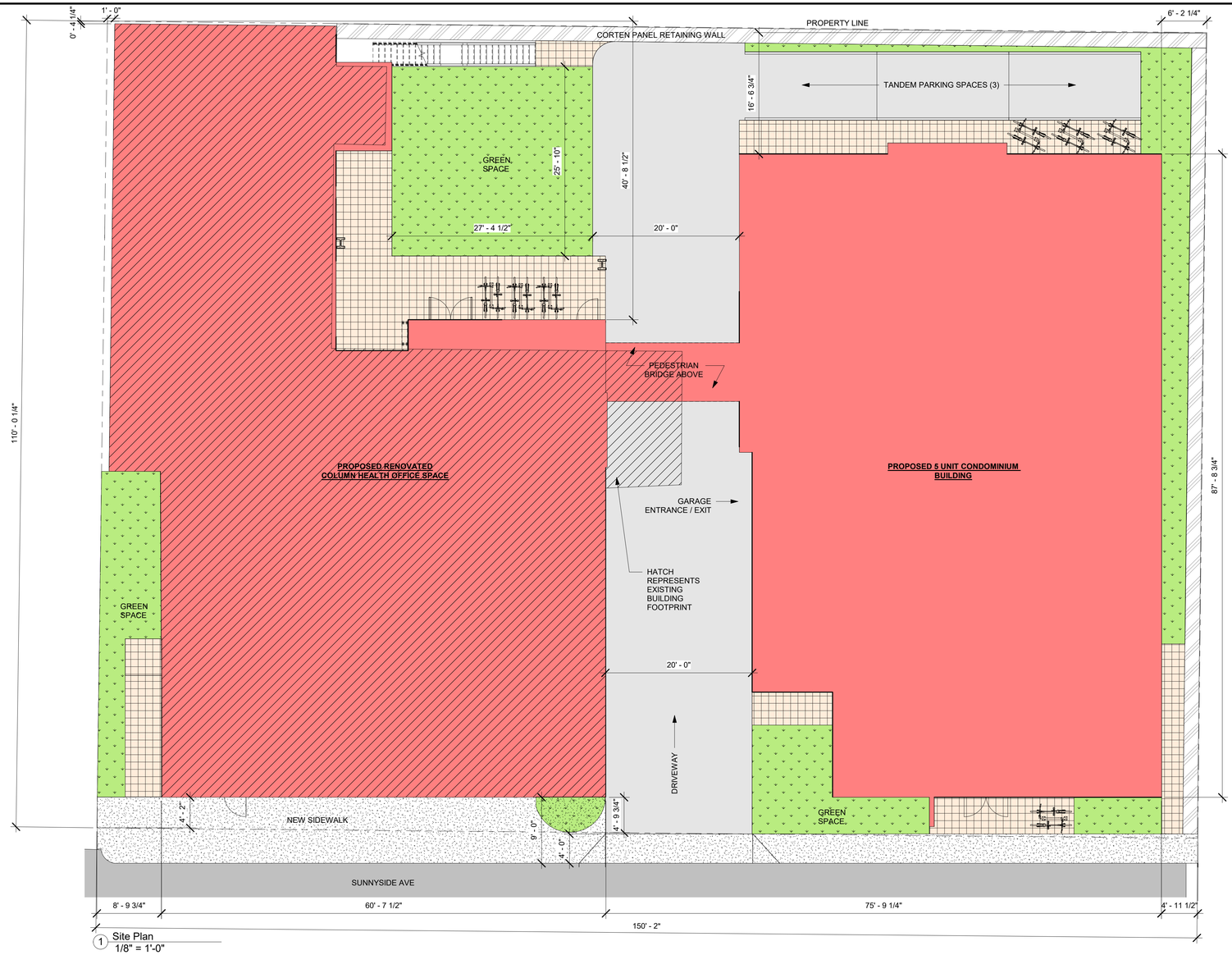
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Site Details 2

SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-8
8 OF 8



1 Site Plan
1/8" = 1'-0"

KEY

- USEABLE OPEN SPACE
- PROPOSED BUILDING FOOTPRINT
- PAVED AREA
- PERMEABLE PAVERS
- PROPERTY LINE

ZONING DESIGNATION

B4: Vehicular Oriented Business District. The Vehicular Oriented Business District provides for establishments that are primarily oriented to automotive traffic, which means they require large amounts of land in proportion to building coverage. This district also consists of establishments devoted to the sale or servicing of motor vehicles, the sale of vehicular parts and accessories, and service stations. Arlington has an abundance of automotive and automotive accessory sales and service establishments. As these businesses gradually close, the Town has encouraged conversion of the property to other retail, service, office, or residential use, particularly as part of mixed-use development.

DISTRICT USE	MIN LOT AREA SF	MIN LOT AREA PER DU	MIN LOT FRONTAGE
B4			
MIXED USE < = 20,000 SF	N/A	N/A	50'-0" (150'-2" existing)

FRONT YARD (0'-0")	SIDE YARD (0'-0")	REAR YARD (10' +L/10)
VARIES (4'-2" - 5'-0")	1'-0" (L) / 4'-11 1/2" (R)	16'-6 3/4" (CONDO) / (+/- 4" EXISTING GARAGE)

OPEN SPACE N/A	USABLE OPEN SPACE
1,780 SF (10.8%)	1,780 SF @ GRADE / 645 SF GREENHOUSE / 218 SF GREEN ROOF

MAX HEIGHT: 60'-0"	MAX STORIES: 5 STORIES
49'-0" ROOF / 60'-0" TOP OF HEADHOUSE	4 STORIES + PRIVATE ROOF DECK LEVEL

MAXIMUM FLOOR AREA RATIO (FAR) 1.5 - 16,500 x 1.5 = 24,750 SF
ADD 5% FAR FOR AVERAGE UNIT SIZE EXCEEDING 1,100 SF (ADDITIONAL 1,237 SF)
ADD 2 SF FOR EVERY 1 SF OF OPEN SPACE IN EXCESS OF REQUIREMENT (ADDITIONAL 1,704 SF)
TOTAL ALLOWED FAR = 27,691 SF

19,428 SF (CONDO BUILDING) + 8,082 SF (OFFICE BUILDING) = 27,510 SF

PARKING REQUIREMENTS: 2 SPACES PER 3 BED UNIT / 1.5 SPACES FOR 1&2 BED UNIT / 1 SPACE PER 500 SF OF OFFICE SPACE

3 RESIDENTIAL UNITS x 2 SPACES = 6 SPACES + 2 RESIDENTIAL UNITS X 1.5 SPACES = 3 SPACES (TOTAL OF 9 SPACES FOR RESIDENTIAL)
5,145 SF OF OFFICE/ 500 SF = 11 SPACES (20 TOTAL)

21 SPACES PROVIDED

BICYCLE PARKING: 1.5 PER DWELLING UNIT LONG TERM / .10 PER DWELLING UNIT SHORT TERM

8 BIKE SPACES LONG TERM + .5 SHORT TERM = 9 BIKE SPACES (14 SPACES PROVIDED)

BICYCLE PARKING: .30 SPACES PER 1,000 SF LONG TERM / .50 SPACES PER 1,000 SF

8.72 x .30 = 3 BIKE SPACES + 8.72 x .50 = 4 BIKE SPACES (7 TOTAL) (20 SPACES PROVIDED)

5.3.19. REDUCED HEIGHT BUFFER

When two different maximum height limits are specified for the same zoning district in any Table of Dimensional and Density Regulations in this Section 5, the lower limit shall apply to any lot or part of a lot located in a height buffer area unless it is determined as a specific finding of a special permit that the properties in the adjacent R0, R1, R2, or OS district would not be adversely affected due to existing use or topographic condition. A height buffer area is defined as a lot or part of a lot which is located at a lesser distance from any land, not within a public way, in an R0, R1, R2 or OS district than the following:

Land in R0, R1, R2, OS is located	Lower height shall apply
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

(SEE SHEET A-020.1 FOR LOCUS OF PROPOSED DEVELOPMENT IN RELATION TO (R) PROPERTIES)

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT — WILLIAM CHRISTOPHER — NO. 49436 — CAMBRIDGE MA — COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	As indicated

REVISIONS

No.	Description	Date

Architectural Site Plan

A-020

10 SUNNYSIDE AVE

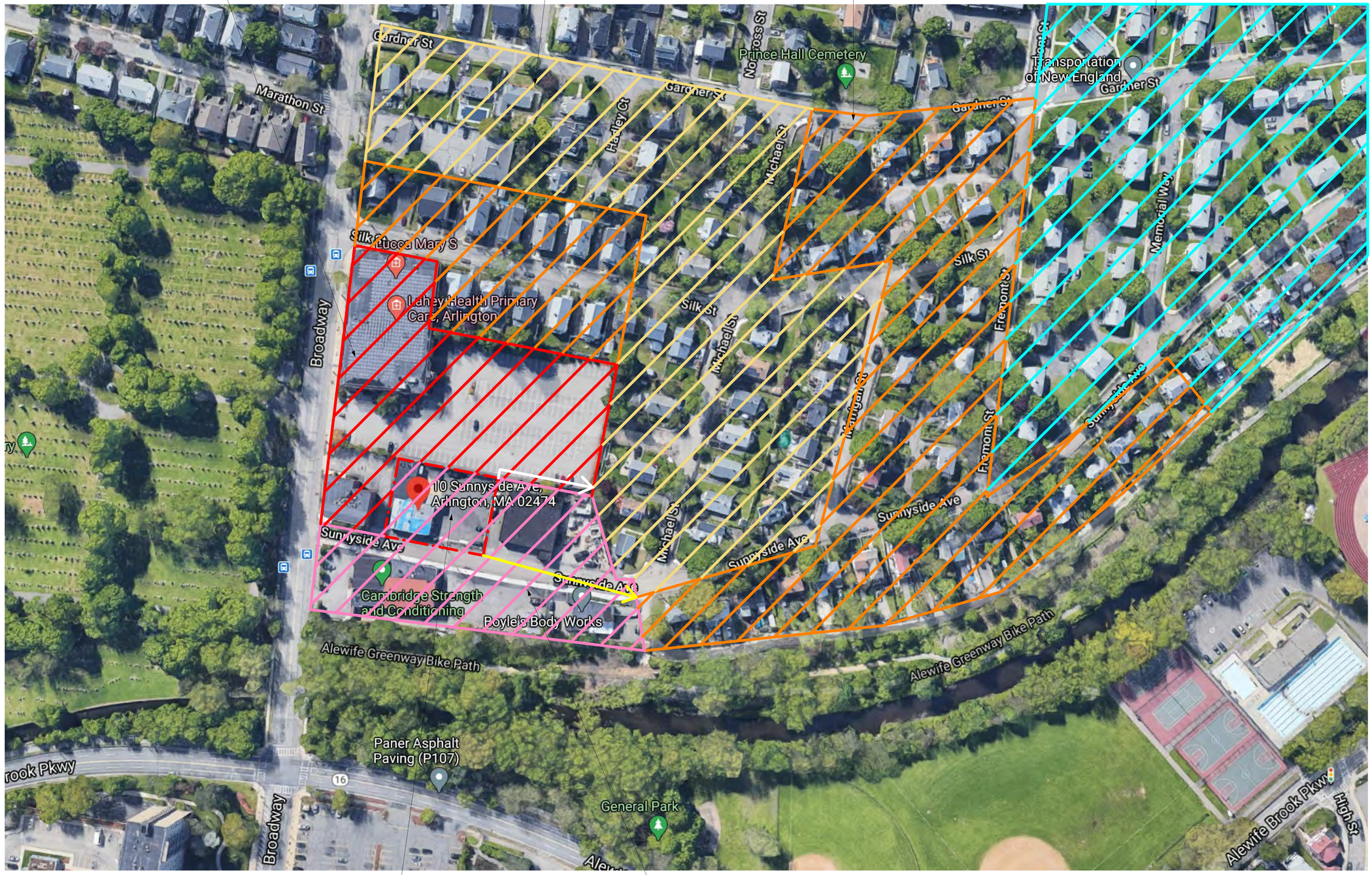
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B2-A ZONE: MAJOR BUSINESS

R-1 ZONE: SINGLE FAMILY

R-2 ZONE: TWO FAMILY

R-5 ZONE: APARTMENTS LOW DENSITY



1 LOCUS
1/4" = 1'-0"

PROJECT LOCATION
10 SUNNYSIDE AVENUE

B4 ZONE: VEHICULAR ORIENTED BUSINESS

10 SUNNYSIDE IS LOCATED APPROXIMATELY 165'-0" TO THE BEGINNING OF THE R-1 ZONE ON MICHAEL STREET LOOKING NORTH (DENOTED WITH WHITE LINE & ARROW)

10 SUNNYSIDE IS LOCATED APPROXIMATELY 252'-0" TO THE BEGINNING OF THE R-2 ZONE ON SUNNYSIDE AVENUE LOOKING NORTHEAST (DENOTED WITH YELLOW LINE & ARROW)

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT
DESIGN
KHALSA
17 IVALOO STREET SUITE 400
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TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
JANET SUSAN KHALSA
No. 9403
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

SITE LOCUS & ZONING

A-020.1

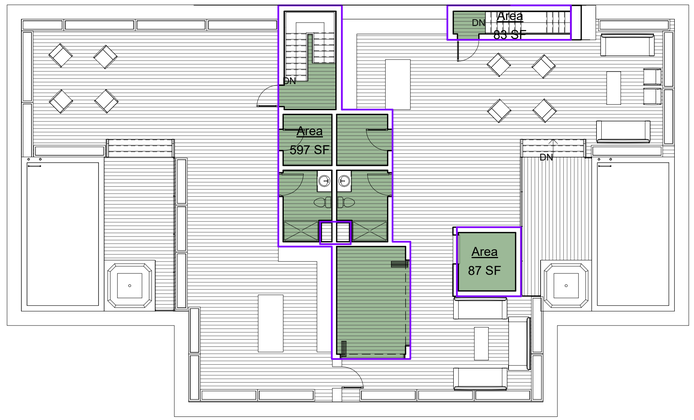
10 SUNNYSIDE AVE

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Building Area Legend

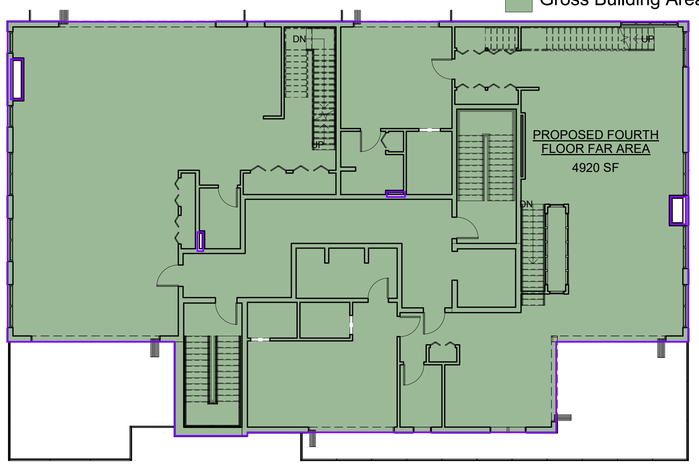
Gross Building Area



5 5 - Residential Roof Deck Level
1" = 10'-0"

Building Area Legend

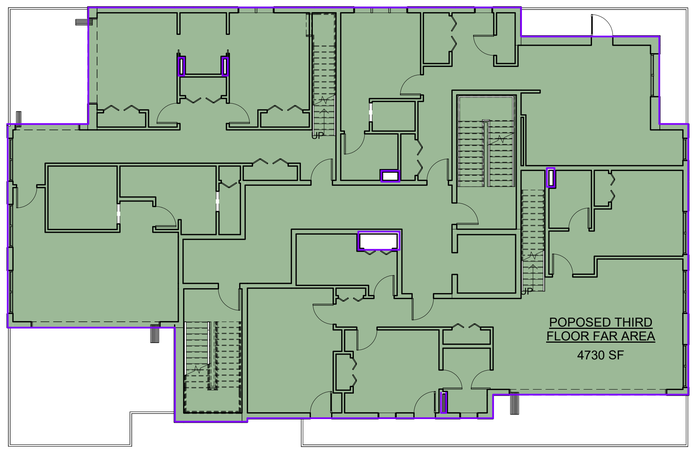
Gross Building Area



4 4- Residential 4th Floor Level
1" = 10'-0"

Building Area Legend

Gross Building Area



3 3 - Residential 3rd Floor Level
1" = 10'-0"

Building Area Legend

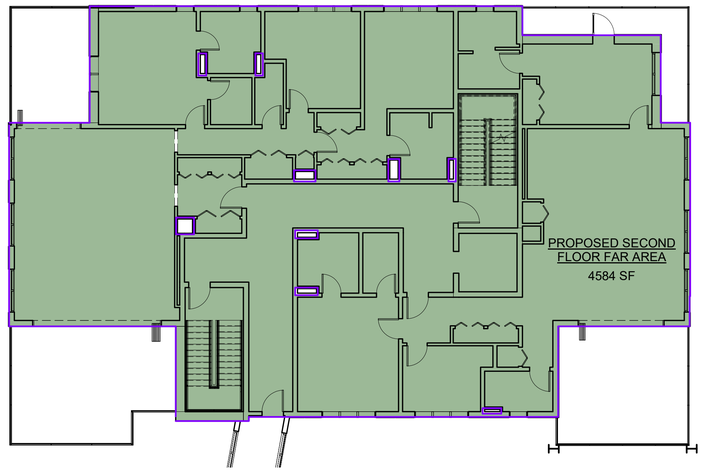
Gross Building Area



1 FIRST FLOOR
1" = 10'-0"

Building Area Legend

Gross Building Area



2 2 - Residential 2nd Floor Level
1" = 10'-0"

TOTAL BUILDING GROSS SF = 19,428 SF

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
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CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
JONATHAN KHALSA
NO. [redacted]
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1" = 10'-0"

REVISIONS

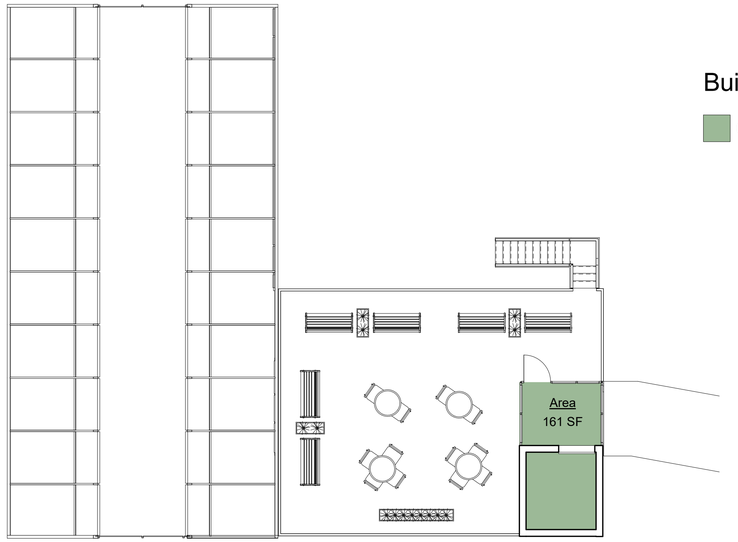
No.	Description	Date

Apartments Gross Area Plan

A-021

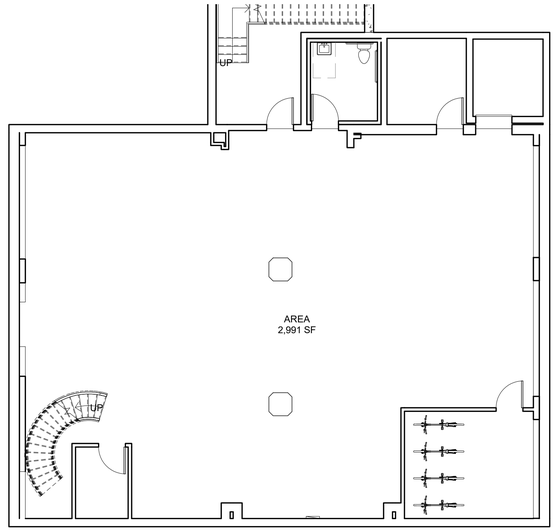
10 SUNNYSIDE AVE

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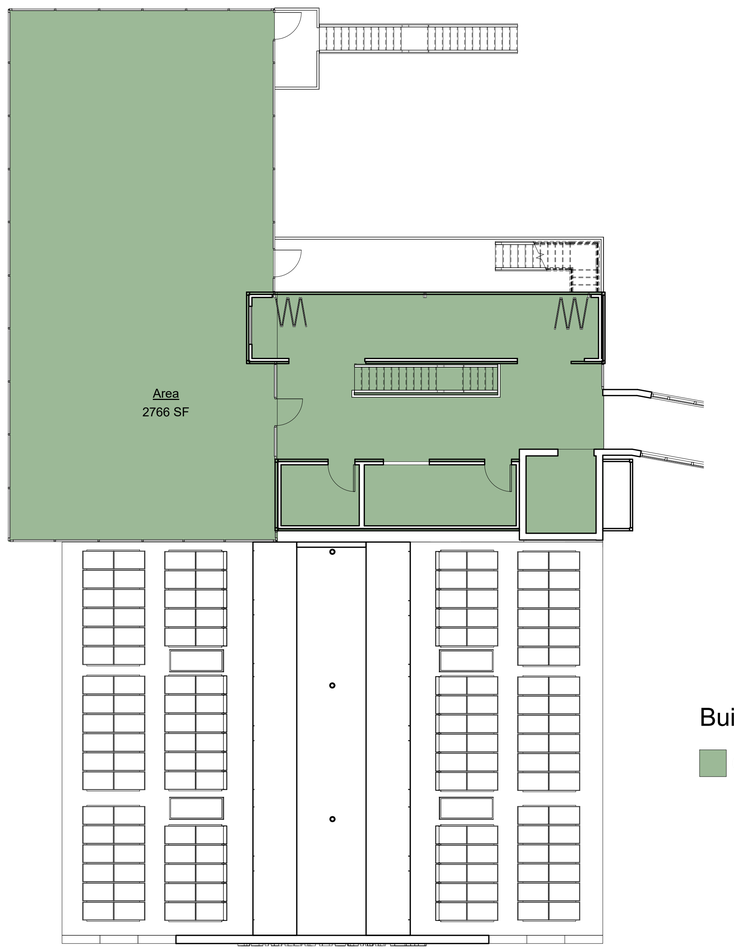


Building Area Legend

Gross Building Area



4 Roof Deck Level
1/8" = 1'-0"

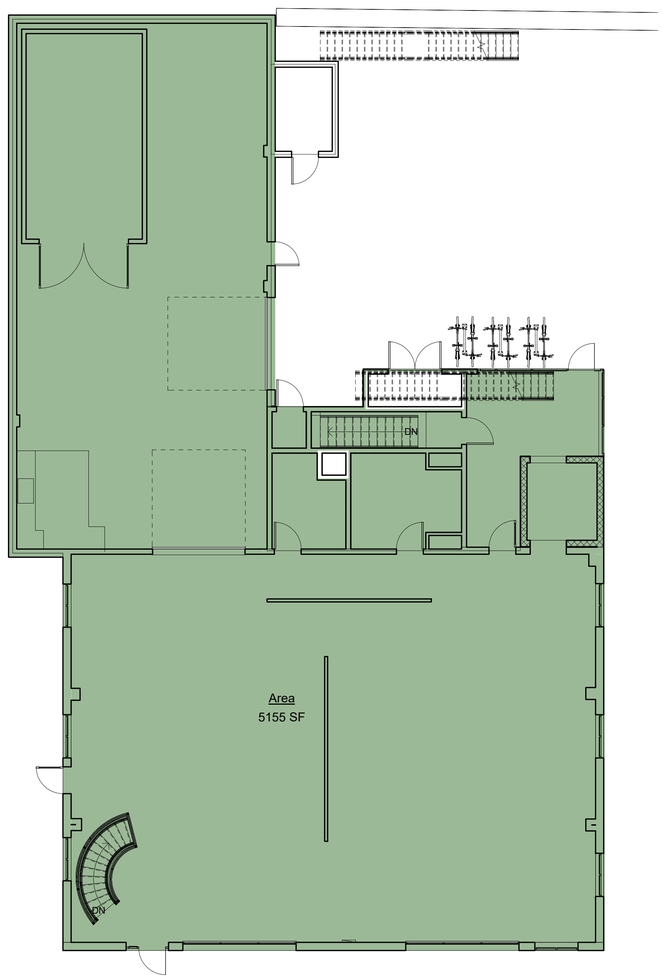


Building Area Legend

Gross Building Area

3 G.H./CAFE LEVEL
1/8" = 1'-0"

1 Basement Level
1/8" = 1'-0"



Building Area Legend

Gross Building Area

TOTAL BUILDING GROSS SF = 8,082 SF

2 1st Floor Level
1/8" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
WILLIAM CHRISTOPHER CASEY
No. 9455
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/8" = 1'-0"

REVISIONS

No.	Description	Date

Offices Gross Area Plan

A-022

10 SUNNYSIDE AVE

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12/8/2020 10:44:20 AM



1 - Residential 1st Floor Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

KHALSA DESIGN

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
MARY BETH KHALSA
NO. 6643
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

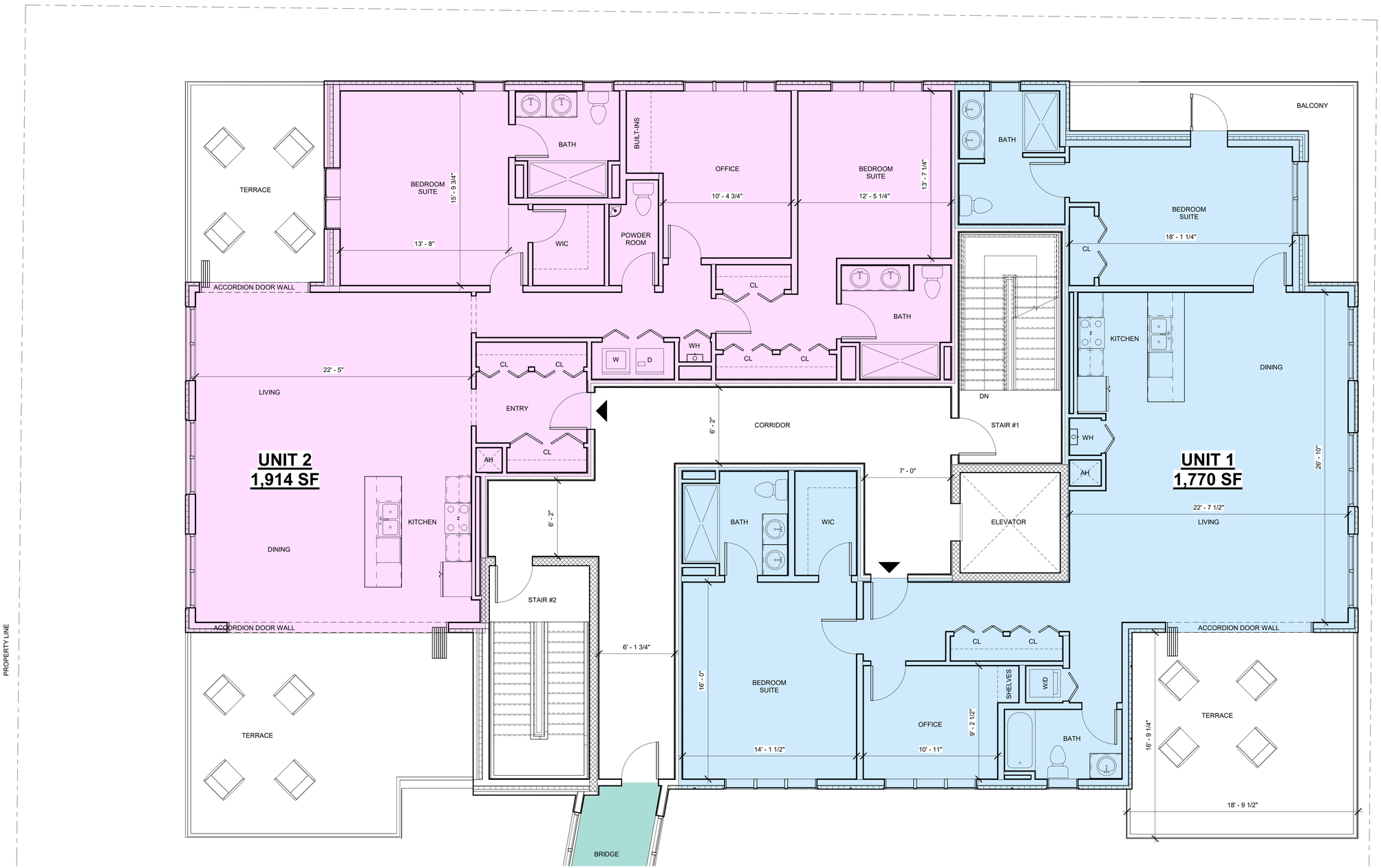
No.	Description	Date

Residential - First Floor Plan

A-101

10 SUNNYSIDE AVE

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1 2 - Residential 2nd Floor Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
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17 IVALOO STREET SUITE 400
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REGISTRATION

REGISTERED ARCHITECT
MARK SIROIS KHALSA
No. 9403
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

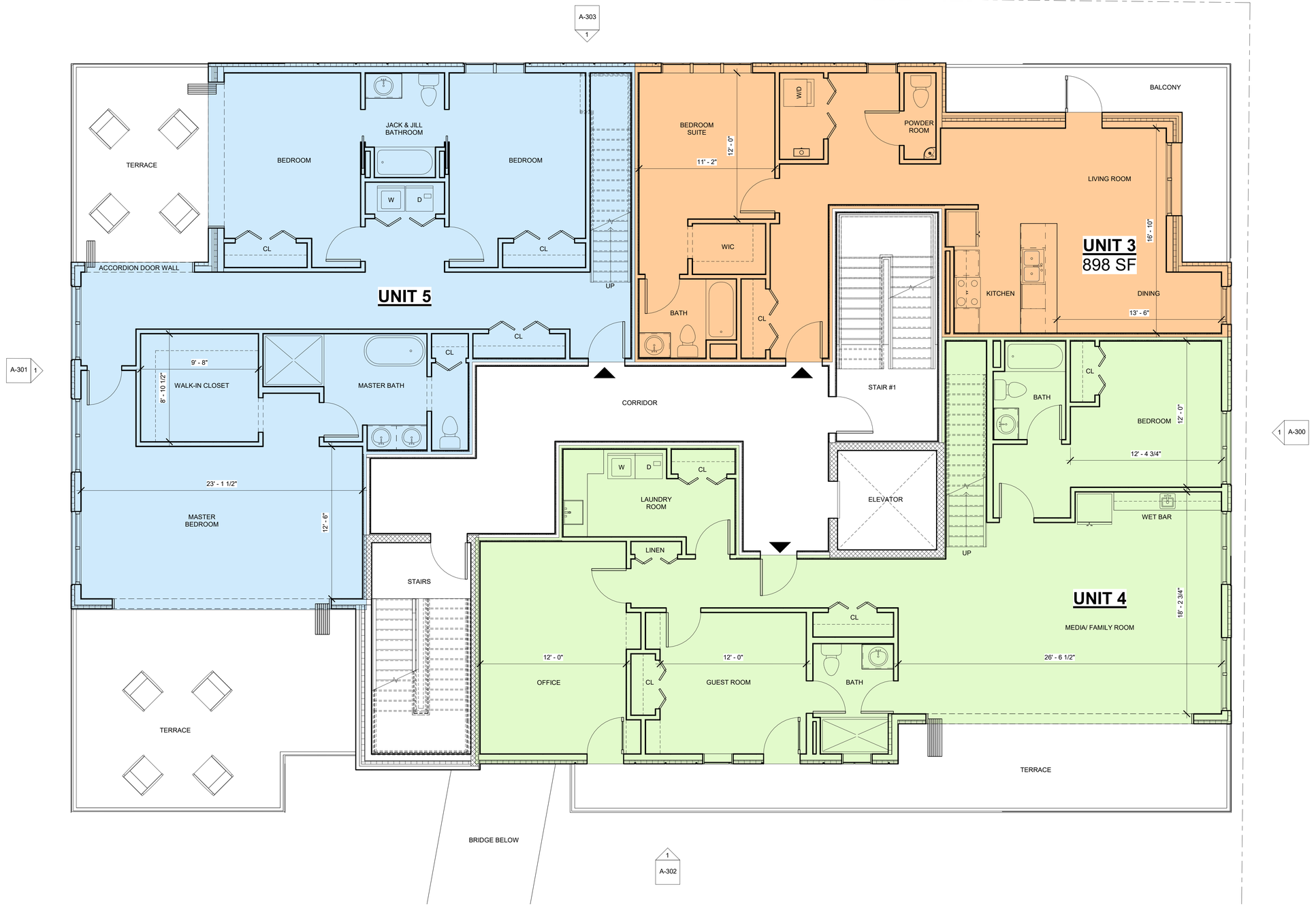
No.	Description	Date

Residential - Second Floor Plan

A-102

10 SUNNYSIDE AVE

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12/8/2020 10:44:43 AM



1 3 - Residential 3rd Floor Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
JAY SURESH KHALSA
No. 10813
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

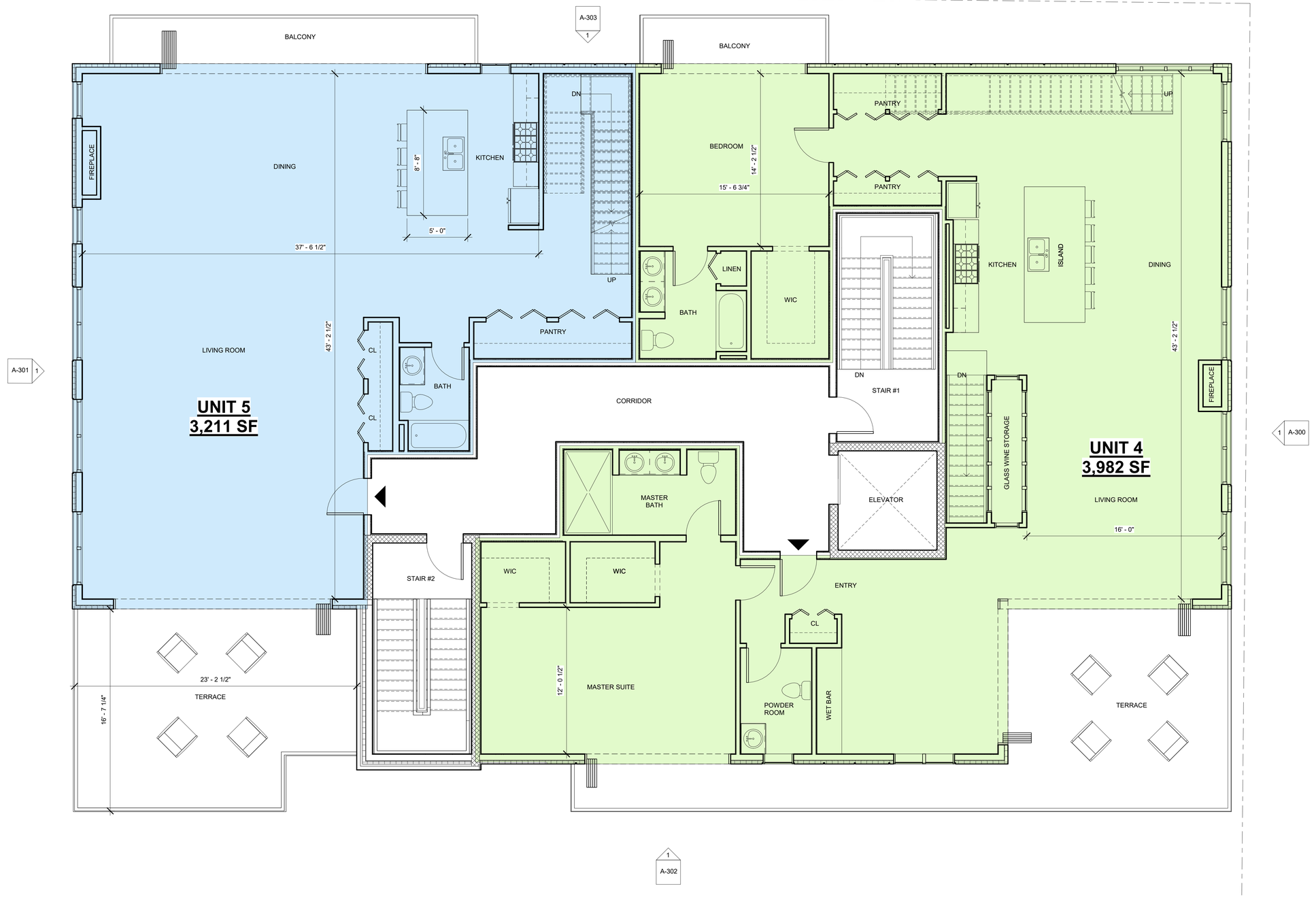
No.	Description	Date

Residential - Third Floor Plan

A-103

10 SUNNYSIDE AVE

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12/8/2020 10:44:52 AM



1 4- Residential 4th Floor Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
JASMINDER KHALSA
NO. 5813
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

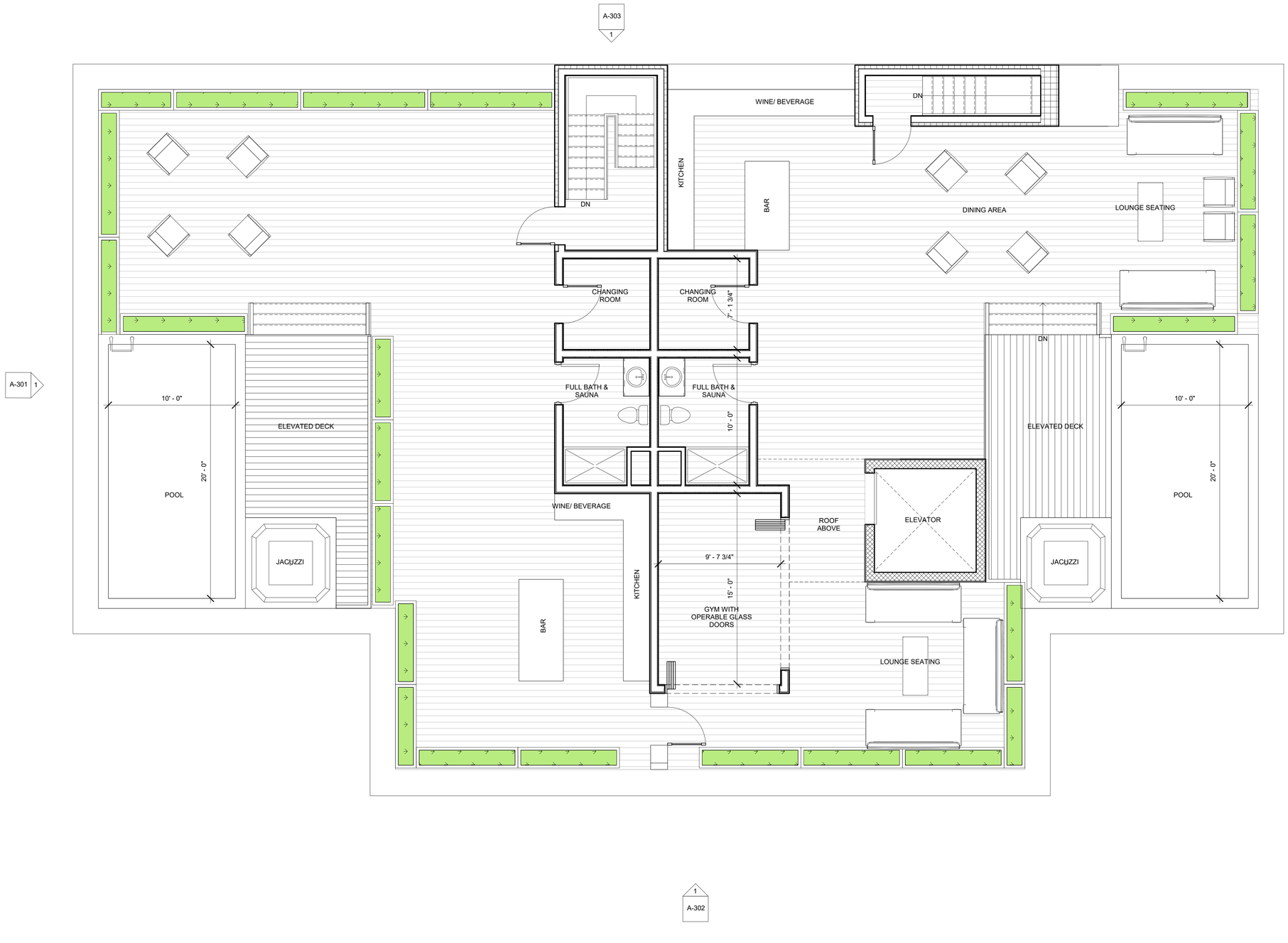
No.	Description	Date

Residential - Fourth Floor Plan

A-104

10 SUNNYSIDE AVE

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12/8/2020 10:44:56 AM



1 5 - Residential Roof Deck Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT JASMEEN KALSI NO. 6643 CAMBRIDGE MA COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

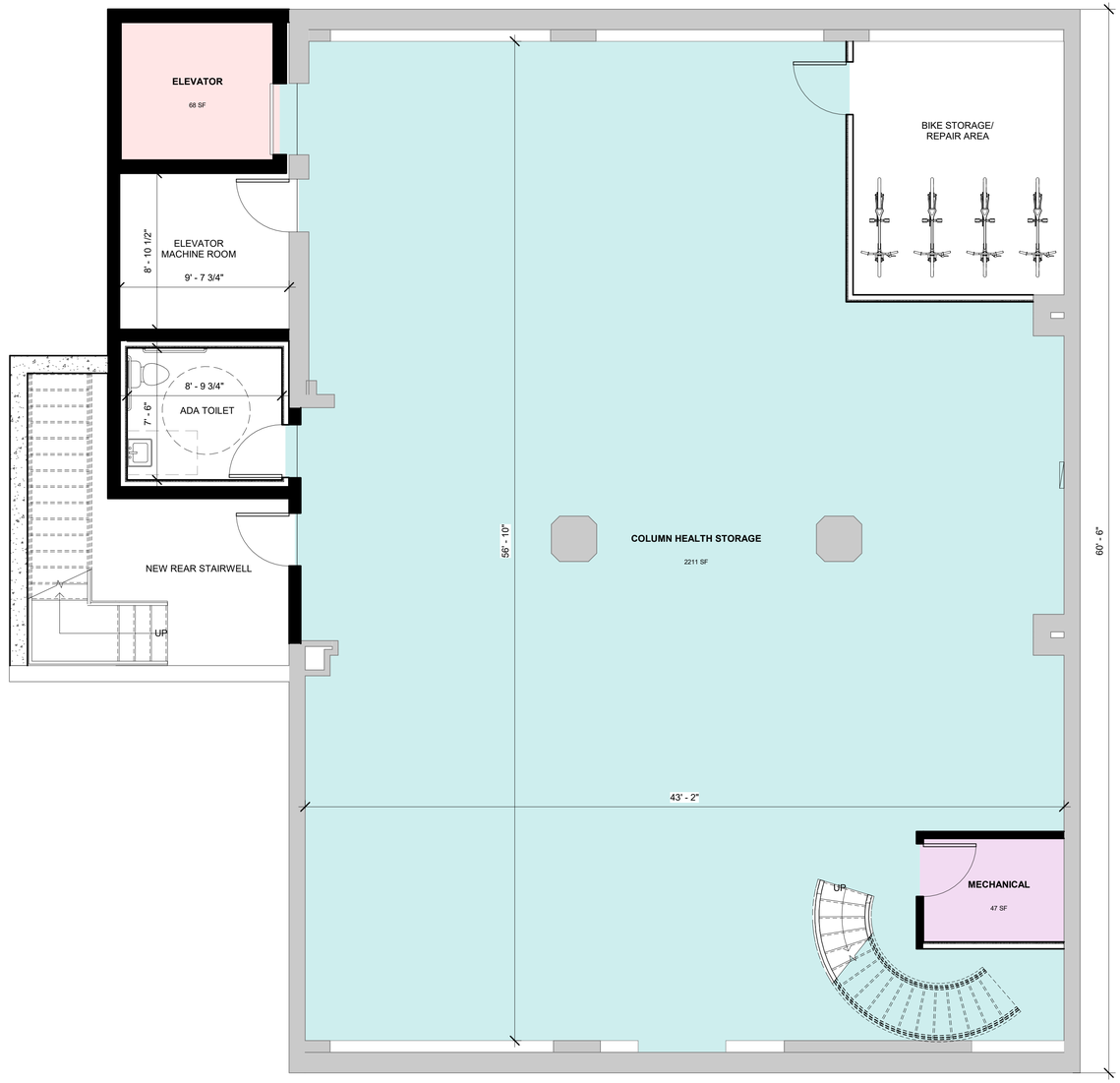
Residential - Roof Deck Floor Plan

A-105

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
12/8/2020 10:44:59 AM

WALL TYPE
EXISTING WALL
PROPOSED WALL



1 Proposed Basement Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
WILLIAM CHRISTENSEN
No. 9443
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

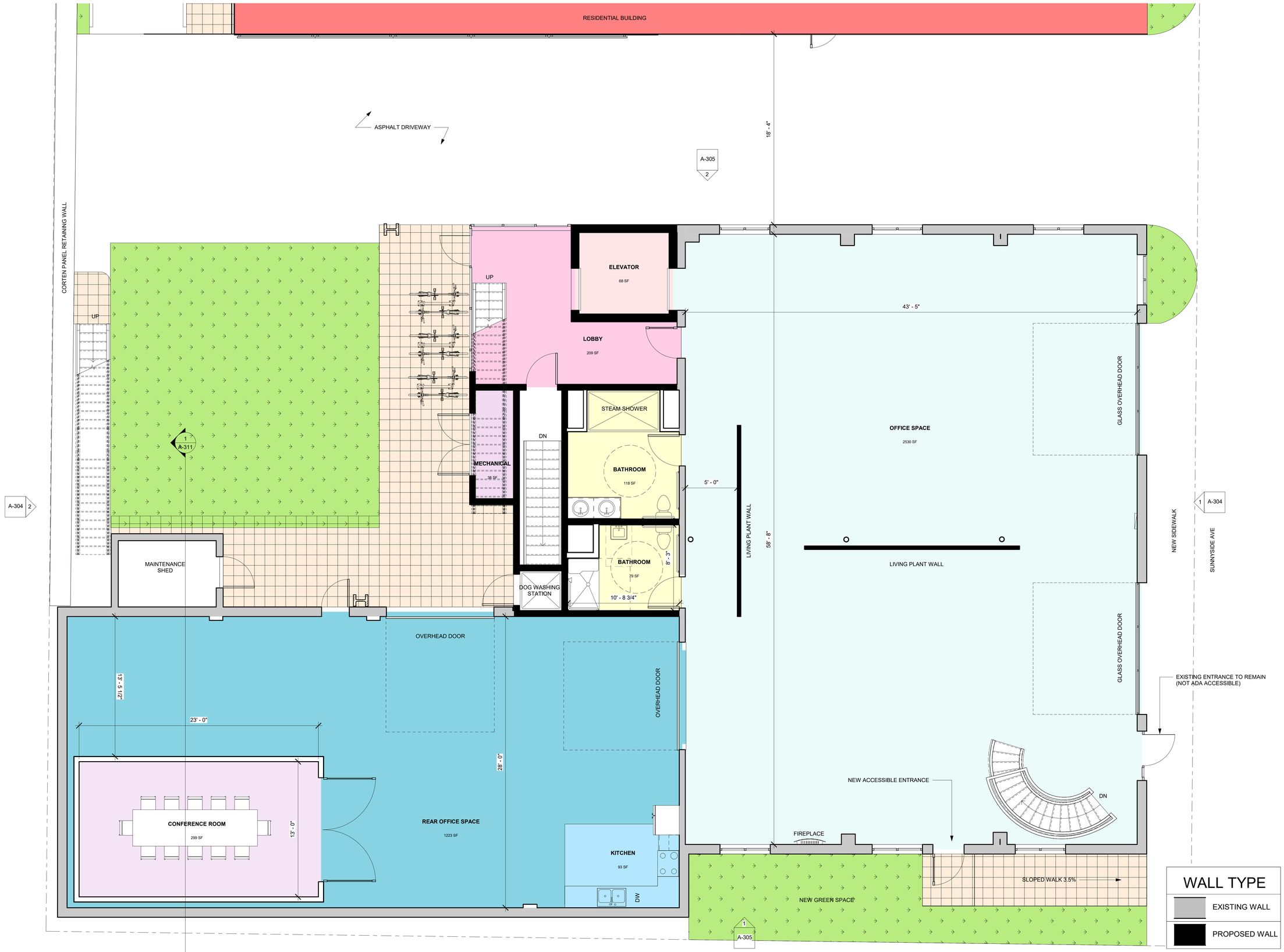
No.	Description	Date

Commercial - Basement Floor Plan

A-106

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
12/8/2020 10:45:02 AM



1 Office - 1st Floor Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
MASSACHUSETTS
No. 31
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

Commercial - First Floor Plan

A-107

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt

12/8/2020 10:51:12 AM



1 Green House / Cafe Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
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REGISTRATION

REGISTERED ARCHITECT
MATTHEW BENJAMIN KHALSA
No. 9443
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

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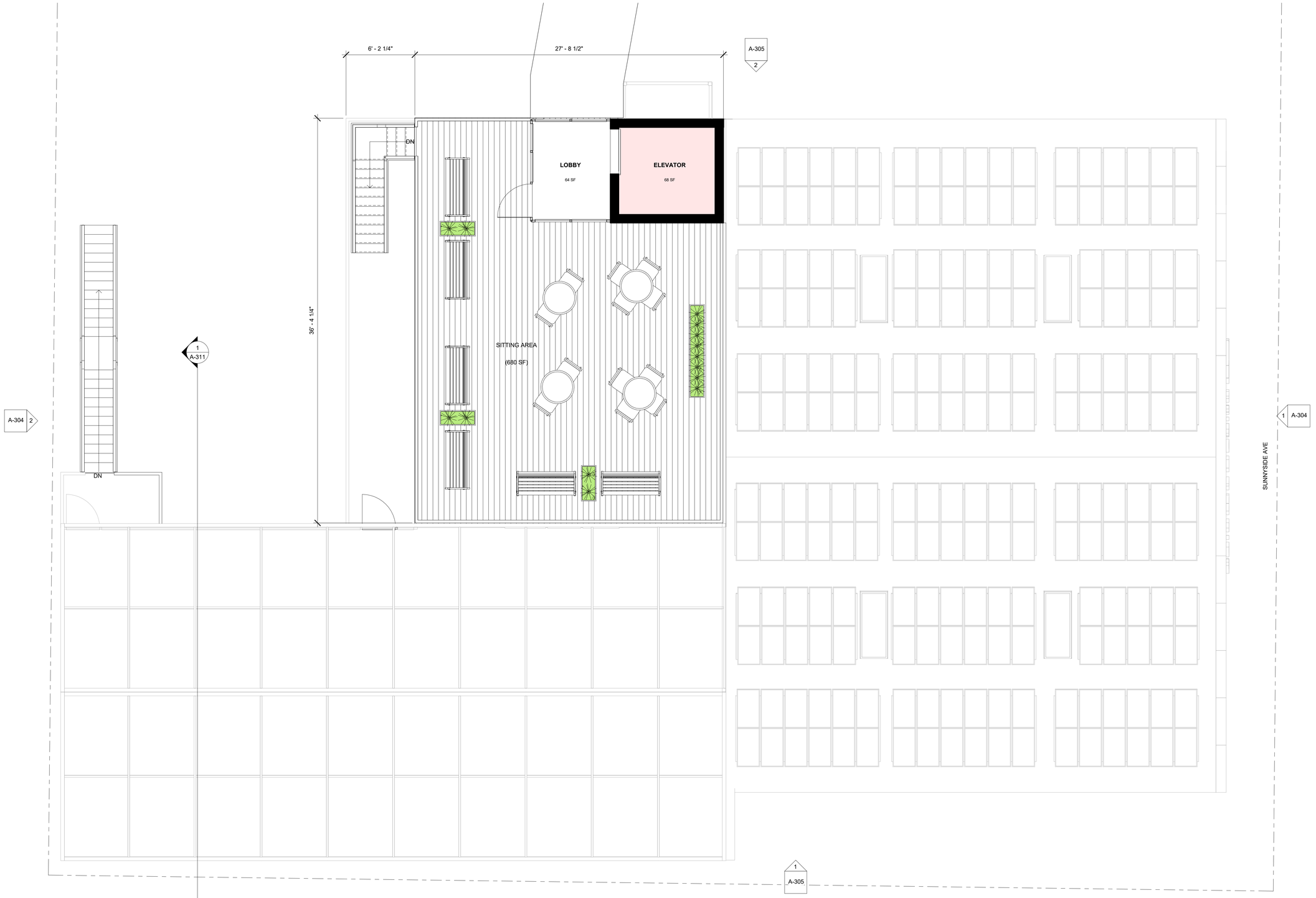
No.	Description	Date

Commercial - Green House / Cafe Floor Plan

A-109

10 SUNNYSIDE AVE

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12/8/2020 10:45:13 AM



1 Proposed Roof Deck Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT MASSACHUSETTS No. 6513 CAMBRIDGE MA COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

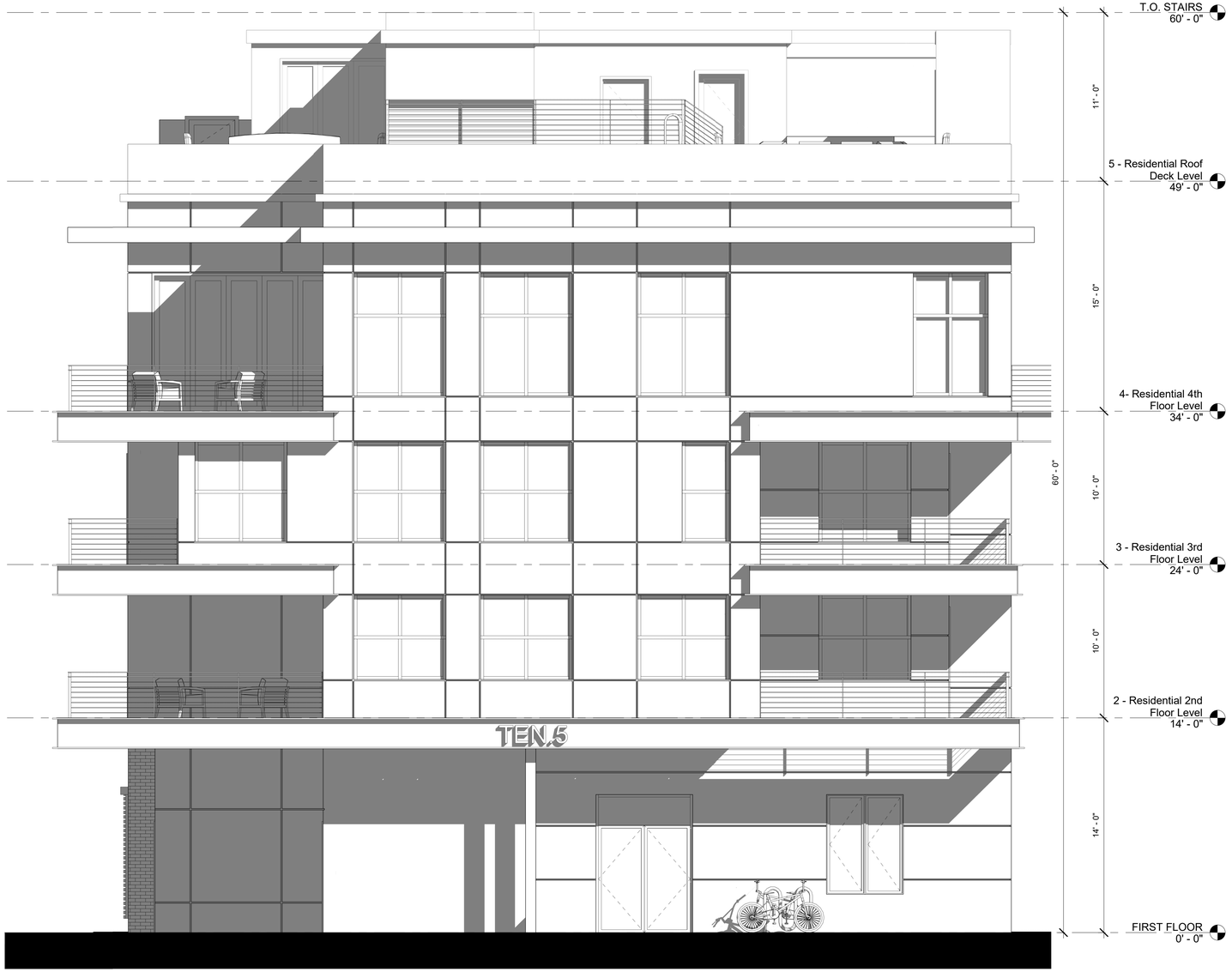
No.	Description	Date

Commercial - Roof Deck Floor Plan

A-110

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
12/8/2020 10:45:16 AM



1 Elevation - Front
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
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REGISTRATION

REGISTERED ARCHITECT
MATTHEW KHALSA
No. 9403
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

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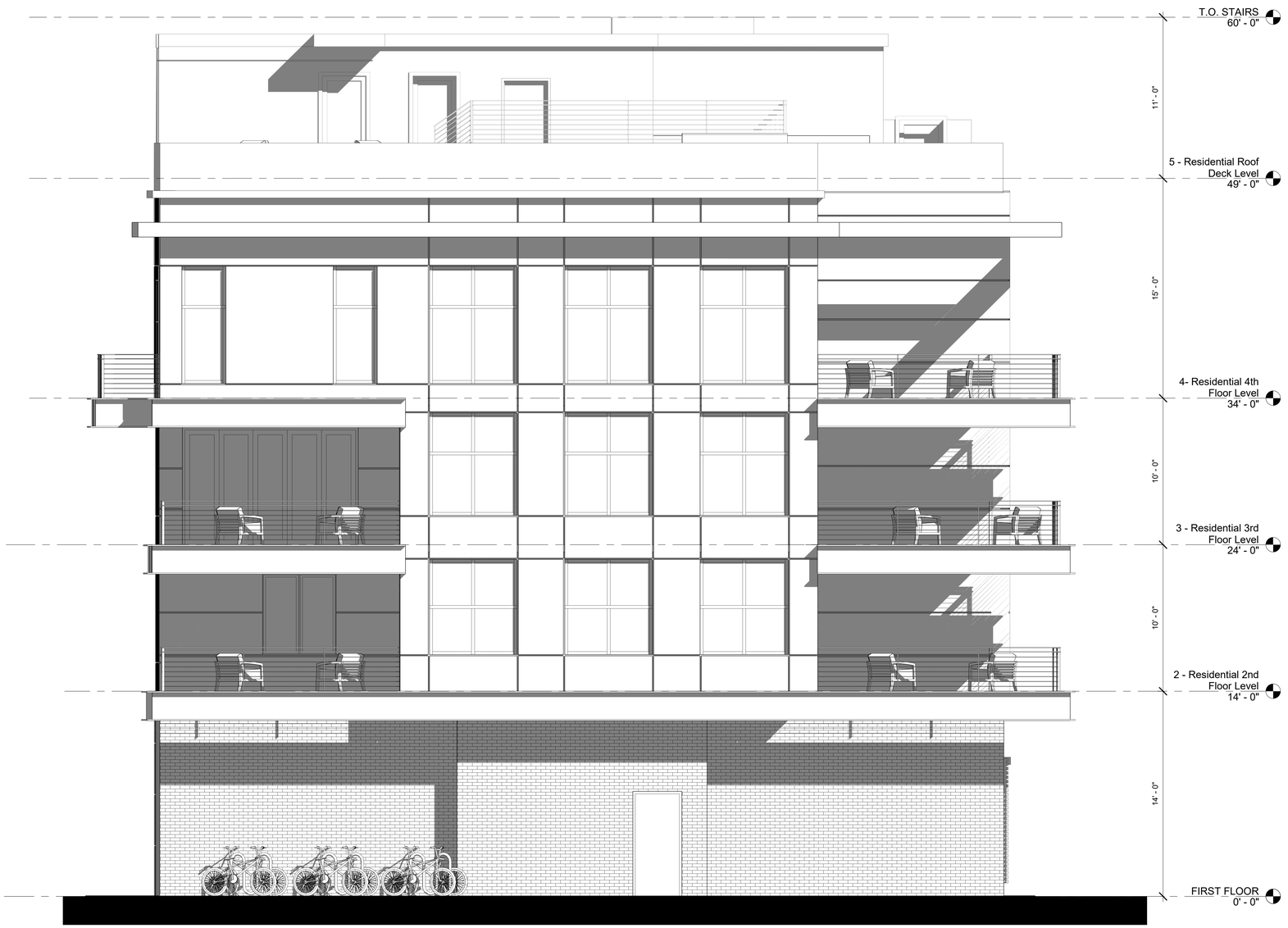
No.	Description	Date

Residential -Front Elevation

A-300

10 SUNNYSIDE AVE

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12/8/2020 10:45:23 AM



1 Elevation - Rear
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
COMMONWEALTH OF MASSACHUSETTS
CAMBRIDGE MA

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

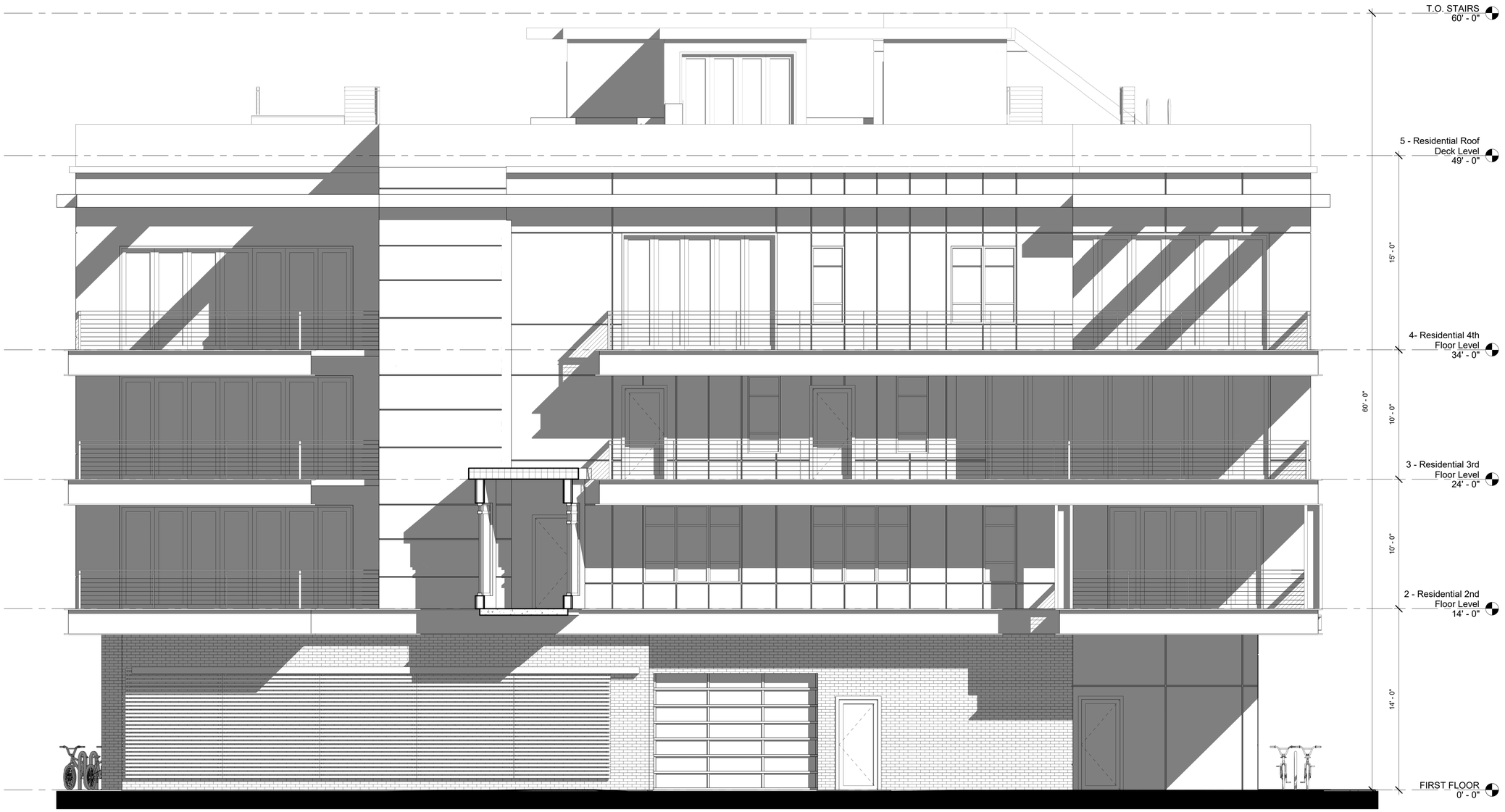
No.	Description	Date

Residential - Rear Elevation

A-301

10 SUNNYSIDE AVE

12/8/2020 10:45:31 AM \\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



1 Elevation - Left Side
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
KAM PUREWAL
NO. 6943
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

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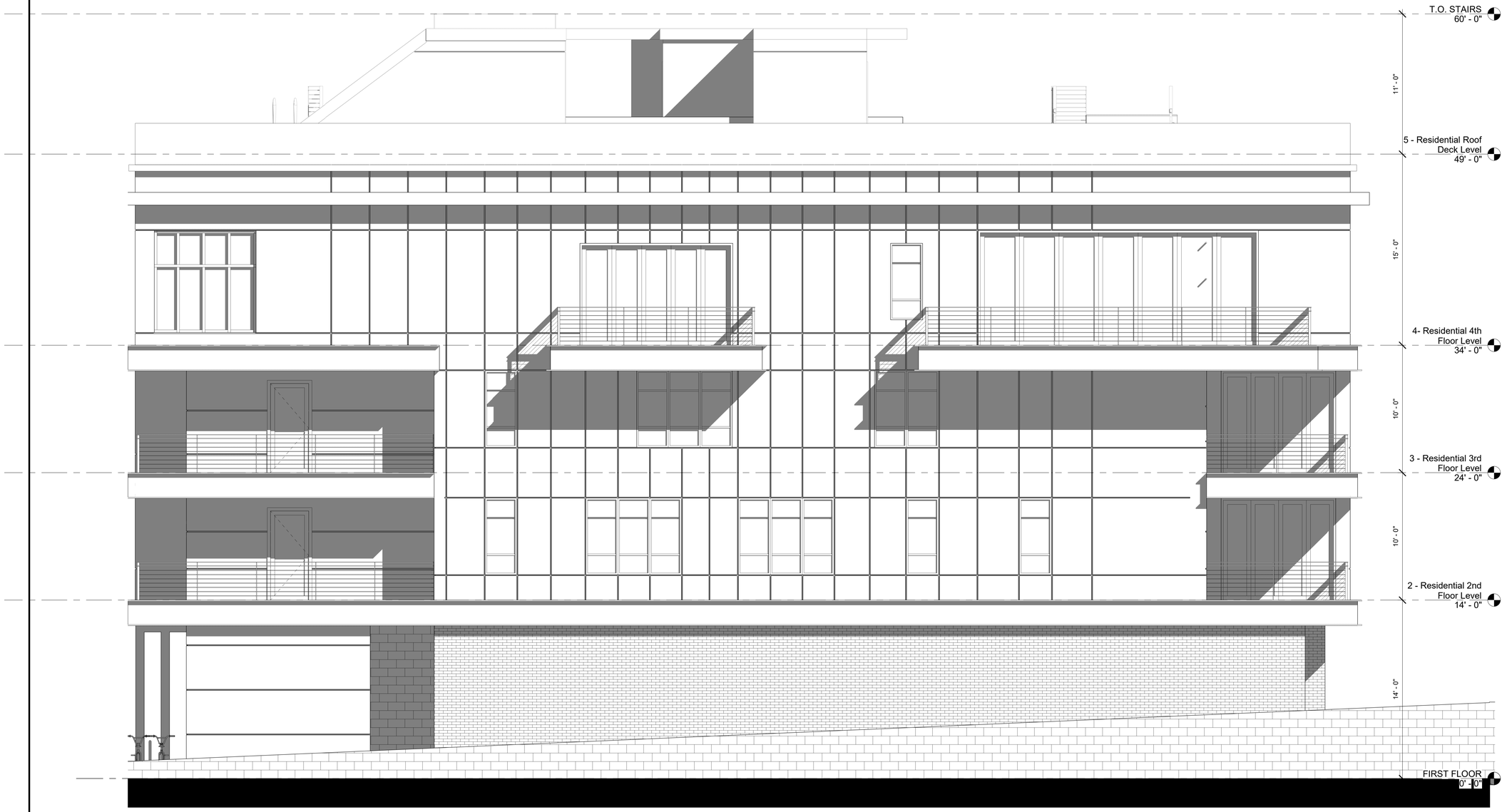
No.	Description	Date

Residential - Left Side Elevation

A-302

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
12/8/2020 10:45:40 AM



1 Elevation - Right Side
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
COMMONWEALTH OF MASSACHUSETTS
CAMBRIDGE MA

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

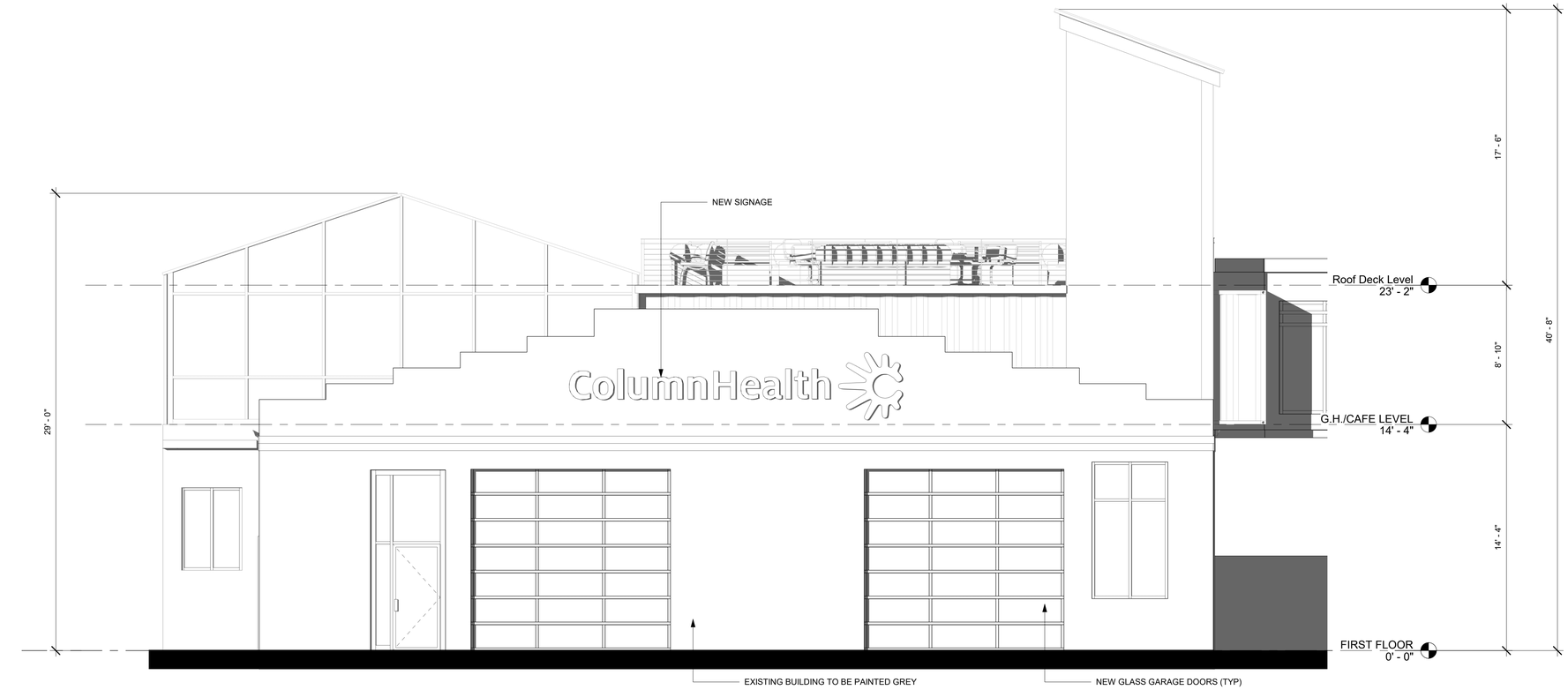
No.	Description	Date

Residential - Right Side Elevation

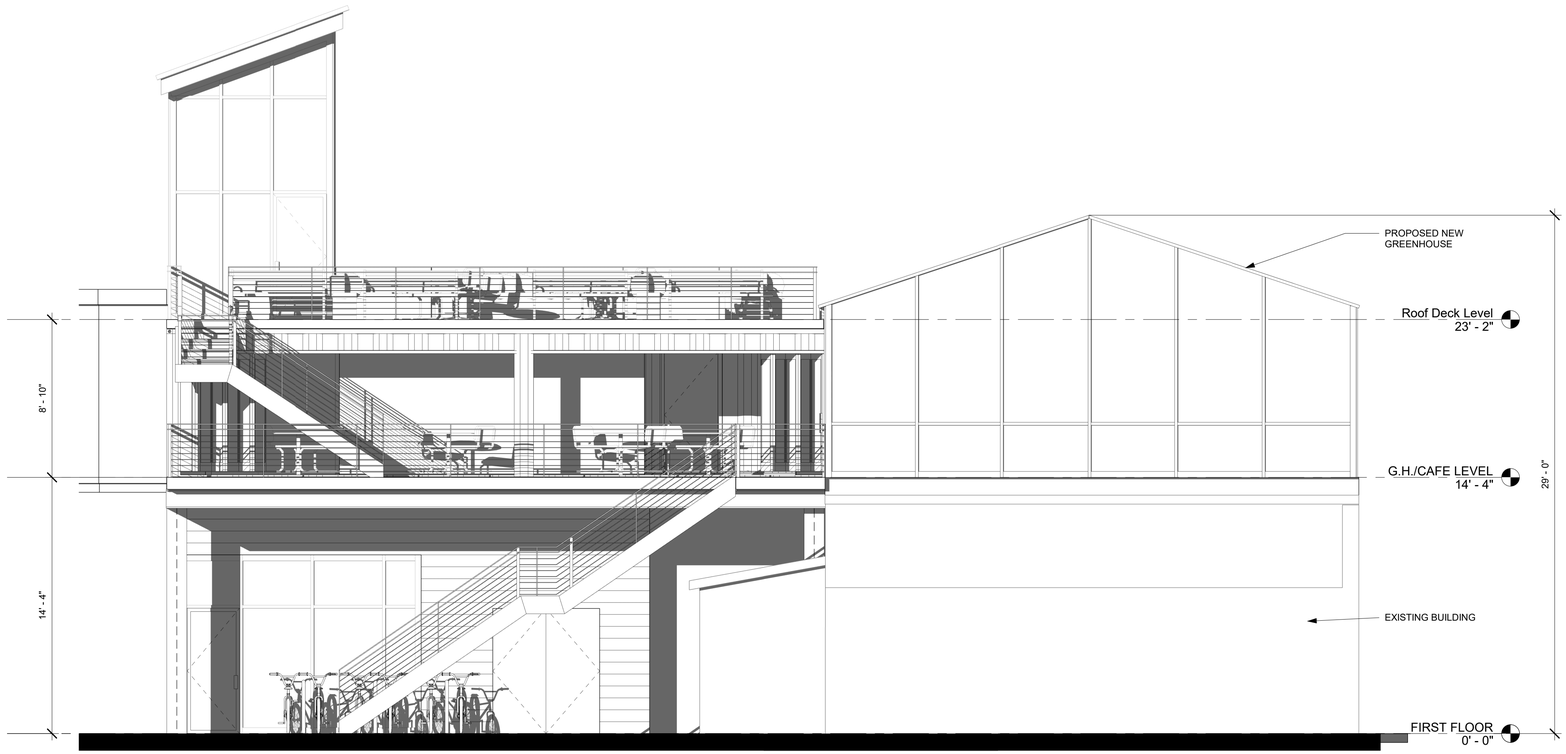
A-303

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
12/8/2020 10:45:49 AM



1 Front Elevation
1/4" = 1'-0"



2 Rear Elevation
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
JASWINDER KHALSA
No. 6513
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

REVISIONS

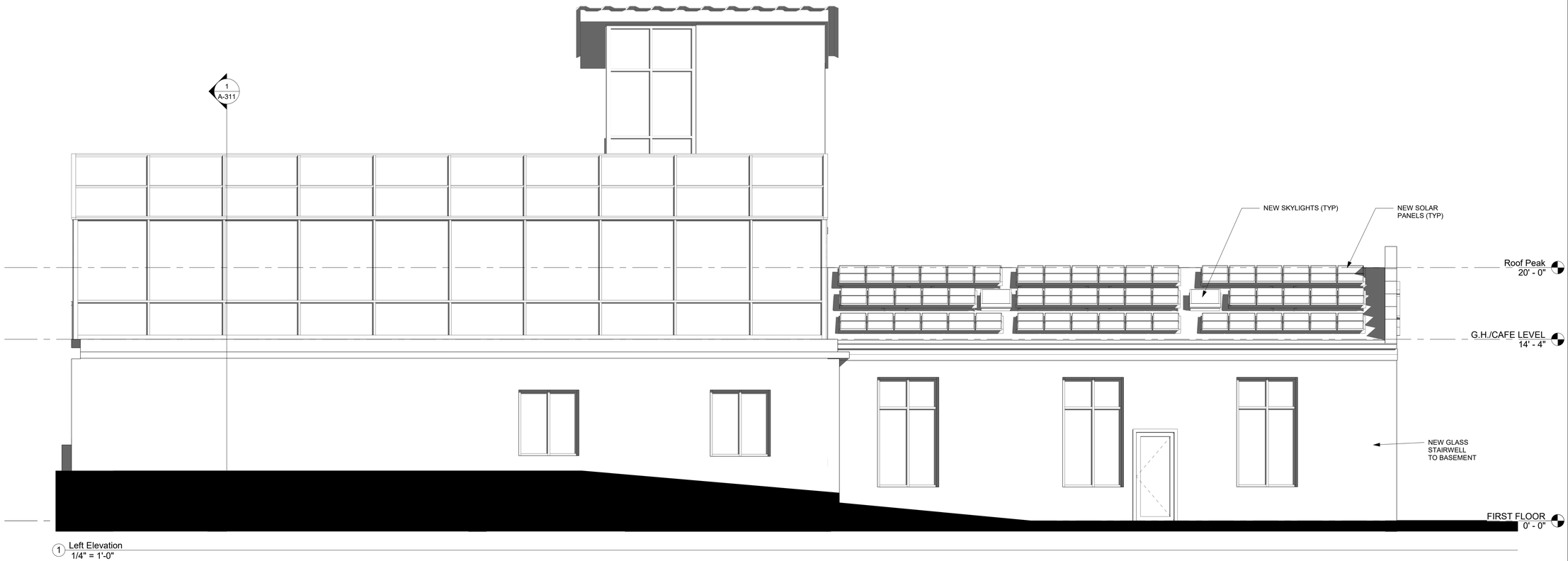
No.	Description	Date

Commercial - Front & Rear Elevations

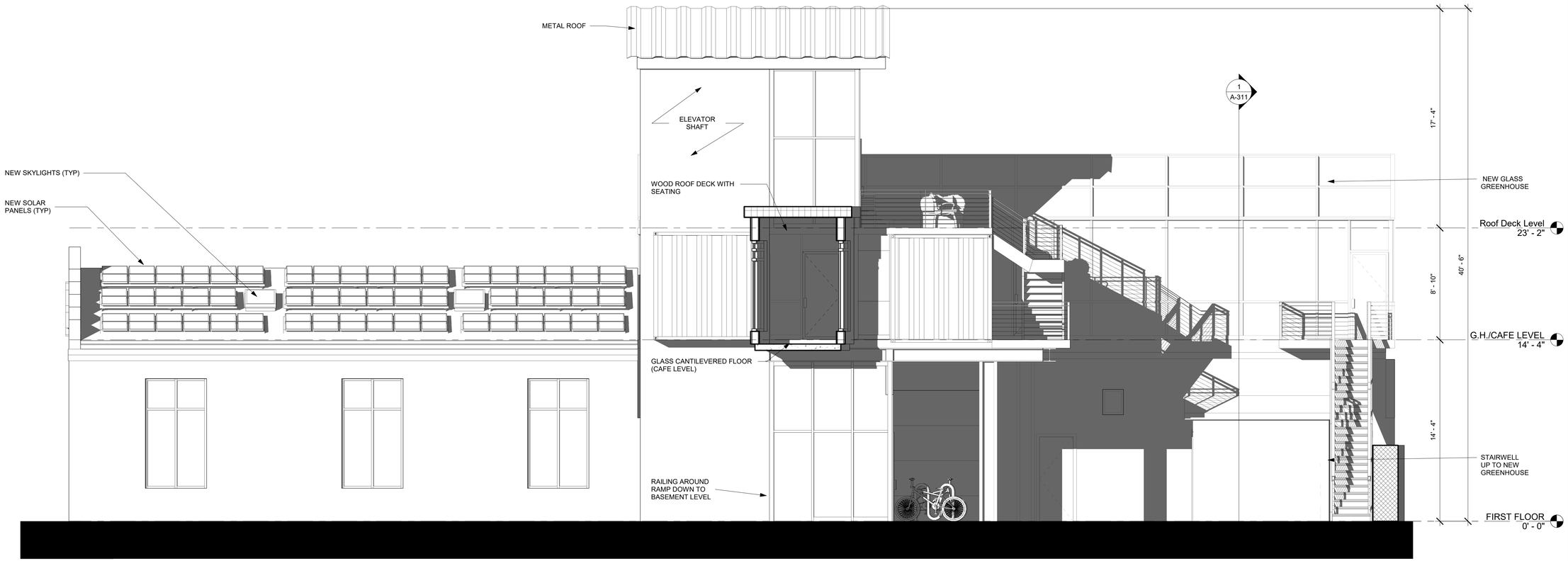
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10 SUNNYSIDE AVE

12/8/2020 10:45:57 AM \\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



1 Left Elevation
1/4" = 1'-0"



2 Right Elevation
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
COMMONWEALTH OF MASSACHUSETTS
NO. [redacted]
CAMBRIDGE
MA

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

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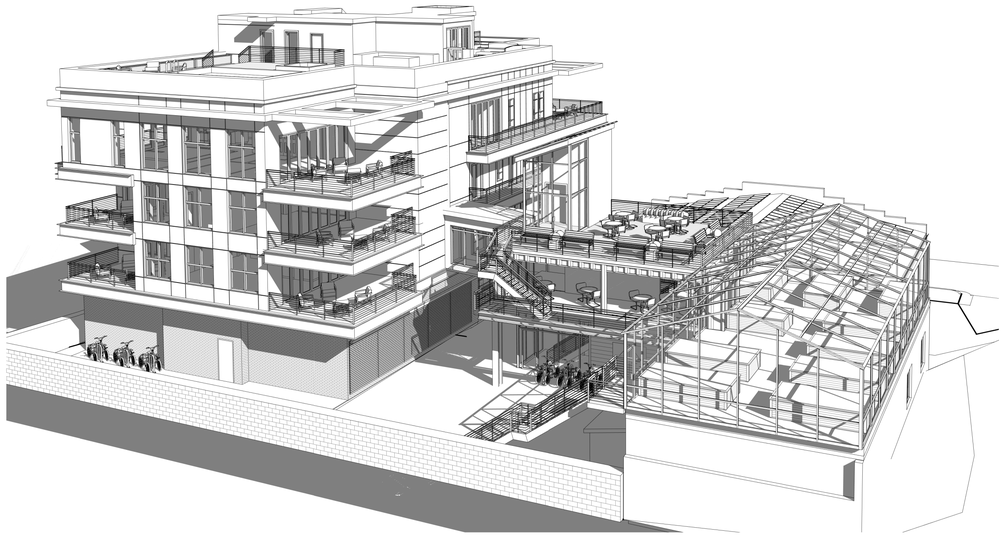
No.	Description	Date

Commercial - Left & Right Elevations

A-305

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
12/8/2020 10:46:06 AM



3 Rear Aerial View #1



1 Perspective #1



4 Street View



2 Perspective #2

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
WILLIAM KHALSA
No. 6555
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
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Scale	

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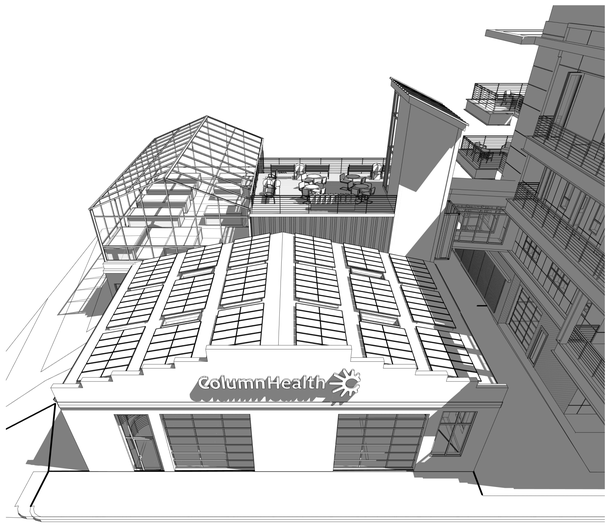
No.	Description	Date

Perspectives #1

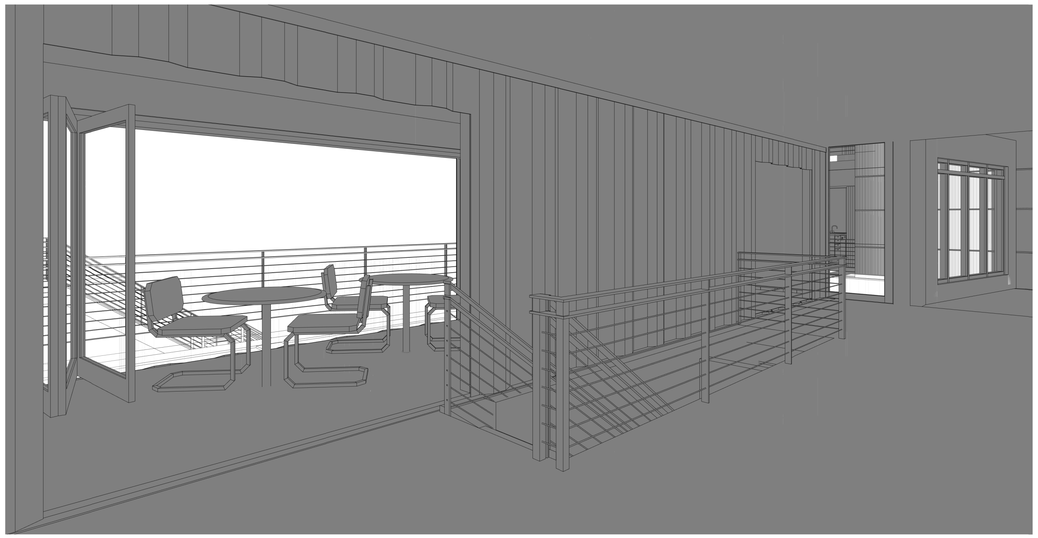
A-306

10 SUNNYSIDE AVE

12/8/2020 10:46:26 AM \\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



1 FRONT AERIAL PERSPECTIVE



2 CAFE LOUNGE VIEW



3 GREENHOUSE VIEW



4 REAR VIEW

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
WILLIAM STANTON OAKES
NO. 50615
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	

REVISIONS

No.	Description	Date

Perspectives #2

A-307

10 SUNNYSIDE AVE

12/8/2020 10:46:40 AM \\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

KHALSA DESIGN

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
NIKOLAS KHALSA
No. 9466
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	

REVISIONS

No.	Description	Date

Realistic Rendering

A-308

10 SUNNYSIDE AVE

12/8/2020 10:46:44 AM \\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
KAT SIROSKY-KHALSA
No. 10823
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	

REVISIONS

No.	Description	Date

Realistic Rendering

A-309

10 SUNNYSIDE AVE

12/8/2020 10:46:47 AM \\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt









PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
KAMALJIT KHALSA
No. [redacted]
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	

REVISIONS

No.	Description	Date

Realistic Perspectives

A-310

10 SUNNYSIDE AVE

Nitsch Engineering

Supplemental Traffic Impact Study

10 Sunnyside Avenue
Arlington, MA

December 22, 2020

Prepared for:

Column Health
339 Massachusetts Avenue
Arlington, MA 02474

Submitted by:

Nitsch Engineering
2 Center Plaza, Suite 430
Boston, MA 02108

Nitsch Engineering Project #14424

Building better communities with you.

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1 Introduction

Nitsch Engineering has prepared this Supplemental Traffic Impact Study (TIS) for the proposed residential and office development at 10 Sunnyside Avenue in Arlington, Massachusetts. The Town of Arlington Planning Board indicated that a Traffic Impact Assessment was conducted in June 2020 by Vanasse & Associates, Inc. for a proposed marijuana dispensary at 21 Broadway, which is the parcel adjacent to 10 Sunnyside Avenue. As such, this report references information found in the dispensary report, specifically with regards to existing conditions and safety analysis.

This TIS will review existing roadway conditions, crash data, and traffic volumes, and it will analyze existing and future conditions at intersections in the study area to establish the impact the proposed development would have on traffic operations.

Figure 1 shows the Locus Map and study area.

1.1 Existing Site and Proposed Development

The project site, comprising approximately 16,500 square feet of land area, is currently occupied by an approximate 5,400-square-foot Automotive Center with an unstriped surface parking lot. The site is bounded by a commercial property to the north, the proposed marijuana dispensary to the south, Sunnyside Avenue to the east, and a commercial parking lot to the west.

The proponent proposes to modify and expand the existing site, currently occupied by an approximate 5,400-square-foot Automotive Center, to develop one mixed-use building on site with approximately 8,000 sq/ft of general office and approximately 20,000 sq/ft of residential space that includes five condominiums. The site will also include an indoor parking garage and surface parking to accommodate a total of 21 vehicle parking spaces and 34 bicycle spaces. Access to the site will remain as existing; one curb cut off Sunnyside Avenue.

1.2 Study Area

The study area includes the existing main three roadways, and three intersections within and adjacent to the project site.

Roadways

- Alewife Brook Parkway (Route 16)
- Broadway
- Sunnyside Avenue

Intersections

- Alewife Brook Parkway (Route 16) and Broadway (Signalized)
- Sunnyside Avenue and Broadway (Unsignalized)
- Sunnyside Avenue and Site Driveway (Unsignalized)



Figure 1: Study Area
10 Sunnyside Avenue
Arlington, MA

Data Source: BingMaps
Nitsch Project #: 14424

1.3 Methodology

The traffic analysis herein is summarized in the following sections:

1. An inventory of existing transportation conditions, including roadway capacities, parking, transit, pedestrian and bicycle circulation, and site conditions.
2. An evaluation of future transportation conditions and an assessment of potential traffic impacts associated with the Project and other neighboring projects. Long-term impacts are evaluated for the year 2027, based on a seven-year horizon from the 2020 base year. Expected roadway conditions and deficiencies are identified. This section includes the following scenarios:
    a. The No-Build Scenario (2027) includes general background growth and additional vehicular traffic associated with specific proposed or planned developments and roadway changes in the vicinity of the Project site; and
    b. The Build Scenario (2027) includes specific travel demand forecasts for the Project.

2 Existing Conditions

2.1 Roadways

Alewife Brook Parkway (Route 16)

Alewife Brook Parkway is classified as an Urban Principal Arterial under Department of Conservation and Recreation (DCR) jurisdiction. It runs in an approximate north-west direction and spans approximately 2.0 miles from its northern terminus at Mystic Valley Parkway to its southern terminus at Concord Avenue. Within the study area, Alewife Brook Parkway is approximately 38 feet wide and is a two-way, four-lane roadway carrying two lanes of travel in each direction. Parking is prohibited on both sides of the roadway along its entire length. Along the west side of the roadway from Mystic Valley Parkway to Massachusetts Avenue, there is a separated multi-use path. On the west side of the roadway, the Alewife Greenway Bikeway runs parallel to the roadway from Mystic Valley Parkway to Concord Parkway. On the east side of the roadway, there is a separated shared-use path from Massachusetts Avenue to Woodstock Street and again from Broadway to Mystic Valley Parkway. The posted speed limit on Alewife Brook Parkway is 30 miles per hour (mph).

Broadway

Broadway is classified as an Urban Principal Arterial under local jurisdiction. Broadway generally runs in an east-west direction and provides one travel lane in each direction. Within the study area, Broadway generally provides two 11- to 12-foot-wide travel lanes separated by a double-yellow centerline with no marked shoulders and parking provided intermittently along both sides. Sidewalks are provided along both sides of Broadway within the study area, with illumination provided by way of streetlights mounted on wood poles. The posted speed limit along Broadway is 25 mph. Land use within the study area consists of the Saint Paul's Cemetery and residential and commercial properties.

Sunnyside Avenue

Sunnyside Avenue is classified as a Local Access Roadway under local jurisdiction. Sunnyside Avenue generally runs in a north-south direction and provides one travel lane in each direction. Within the study area, Sunnyside Avenue provides an approximate 26-foot wide traveled-way with no marked centerline or shoulders provided and on-street parking permitted along both sides of the roadway. Sidewalks are provided along both sides of Sunnyside Avenue within the study area, with illumination provided by way of streetlights mounted on wood poles. A posted speed limit is not provided along Sunnyside Avenue and, as such, the statutory speed limit is 25 mph. Land use within the study area consists of residential and commercial properties.

2.2 Study Intersections

Alewife Brook Parkway (Route 16) and Broadway

The intersection of Alewife Brook Parkway (Route 16) and Broadway is a four-way, signalized intersection with Alewife Brook Parkway running north-south and Broadway running east-west. Both Alewife Brook Parkway approaches carry two approach lanes: one left-turn/through lane and one through/right-turn lane. Both Broadway approaches are striped as one left-turn/through/right-turn lane in each direction, but both act as two lanes: one left-turn/through lane and one through/right-turn lane. The Alewife Brook Parkway movements have their own phase, followed by an exclusive pedestrian phase, followed by the Broadway eastbound phase, and then the Broadway

westbound phase. There is a shared-use path on the north side of Alewife Brook Parkway at the intersection. Sidewalks are present at all approaches to the intersection and there are crosswalks present across all approaches.

Sunnyside Avenue and Broadway

The intersection of Sunnyside Avenue and Broadway is a three-way, unsignalized intersection with Broadway operating as a free movement through the intersection and Sunnyside Avenue under stop-control. Sunnyside Avenue runs north-south and Broadway runs east-west. Both the Sunnyside Avenue and Broadway approaches carry one approach lane. Note that the Broadway approach lanes are 22 feet wide and although are only striped as single lanes, they operate as two approach lanes to provide queuing storage for vehicles turning onto Sunnyside Avenue. Sidewalks are present at all approaches to the intersection however crosswalks are not present. Wheelchair ramps with detectable warning panels are provided at the northeast and northwest corners of the intersection.

Sunnyside Avenue and the Existing Site Driveway

The intersection of Sunnyside Avenue and the Site Driveway is a three-way, unsignalized intersection with Sunnyside Avenue operating as a free movement through the intersection. Sunnyside Avenue runs north-south and the Site Driveway runs east-west. Both the Sunnyside Avenue and Broadway approaches carry one approach lane. Sidewalks are present along both sides of Sunnyside Avenue.

2.3 Public Transportation

Public transportation services are provided within the study area by the Massachusetts Bay Transit Authority (MBTA) for Bus service. Within the study area, the MBTA operates the Route 87 – Clarendon Hill or Arlington Center - Lechmere Station. Route 87 stops at the Broadway/Sunnyside Avenue intersection; and provides a connection to Arlington Center, Clarendon Hill, Teele Square, Davis Station (MBTA Subway Red Line), Union Square, and Lechmere Station (MBTA Subway Green Line).

MBTA bus service operates Monday through Friday from approximately 5:07 AM to 1:40 AM, on Saturday from 5:15 AM to 1:35 AM, and on Sunday from 6:00 AM to 1:33 AM, with 30-minute-or-less headways on weekdays and Saturdays and 60-minute-or-less headways on Sundays. All MBTA buses are handicapped and wheelchair accessible.

3 Existing Traffic Conditions

3.1 Traffic Count Data

Turning Movement Count (TMC) Data

Precision Data Industries, Inc. (PDI) of Framingham, Massachusetts was retained to collect traffic data on Thursday, December 3, 2020 for all study intersections. TMC data was recorded from 7:00 AM to 9:00 AM to capture the weekday morning peak period volumes and from 4:00 PM to 6:00 PM to capture the weekday evening peak period volumes. The counts include passenger vehicles, heavy vehicles, buses, single-unit trucks, bicycles, and pedestrians. Accurate Counts collected TMC data at the intersection of Alewife Brook Parkway and Broadway on October 18, 2016. According to the MassDOT guidance, the Annual Growth Factors for each year were applied

to year 2019; however, no seasonal adjustment factor for the October data (0.93) or the November data (0.97) was applied as the traffic volumes.

COVID-19 Traffic Data Adjustment

Since March 2020, the COVID-19 pandemic caused the State of Massachusetts to close most businesses, schools, retail stores, and restaurants, significantly altering daily traffic operations. On May 2020, MassDOT published a new Engineering Directive E-20-005, to provide guidance on how to estimate existing and future traffic counts because traffic counts taken after March 13, 2020 may undercount the baseline for which future year are based. As such, we contacted the Town of Arlington to collect traffic studies completed recently in the study area. The Clarendon Hill Traffic Impact and Access Study, conducted in 2017, included 2016 counts taken at the Alewife Brook Parkway/Broadway intersection. As such, the 2016 traffic volumes at this intersection were utilized and adjusted to 2019 volumes following the procedures outlined in the MassDOT Guidance on Traffic Count Data (April 2020).

Historical data for the Sunnyside Avenue/Broadway intersection was not available therefore the counts collected by PDI on December 3, 2020 were used to generate a percent difference at the Alewife Brook Parkway intersection during the weekday morning and weekday evening peak hours. It was found that the 2020 counted volumes comprised only 44% of the 2019 volumes (grown from 2016) during the weekday morning peak hour and 47% of the 2019 volumes during the weekday evening. Therefore, average factors of 2.3 and 2.1 were applied to the 2020 collected volumes at the Sunnyside Avenue/Broadway intersection for the weekday morning and weekday evening peak hours, respectively. **The adjusted traffic volumes will be referred to as the 2020 existing condition in this report**. The 2016 and 2020 raw traffic counts are included in Appendix A.

Figure 2 shows the 2020 existing peak-hour traffic volumes at the study intersections in the form of turning movements.



Figure 2: Estimated 2020 Existing Peak Hour Volumes
10 Sunnyside Avenue
Arlington, MA

Data Source: BingMaps
Nitsch Project #: 14424

3.2 Safety Analysis

As the crash safety analysis was conducted for the marijuana dispensary adjacent to the project site, we have summarized the findings from the June 2020 Traffic Impact Assessment (TIA). As defined in the TIA, Motor vehicle crash data was acquired from the Massachusetts Department of Transportation (MassDOT) Safety Management/Traffic Operations Unit for the most recent five-year period available (2013 through 2017) to examine motor vehicle crash trends occurring within the study area. The crash statics table for the Alewife Brook Parkway/Broadway intersection from the June 2020 TIA are included in Table 1. The Broadway at Sunnyside Avenue intersection is not listed as a HSIP location and has a crash rate below the MassDOT average. Therefore, this intersection was not reported.

Table 1 – Crash Statistics

Intersections	Crash Statistics
Total Crashes By Year	
2013	8
2014	7
2015	6
2016	16
2017	13
Total (5 Years)	**50**
Intersection Crash Rate	
Calculated[a]	**0.83**
Average, District 4[a,c]	0.73
Average, Statewide[a,c]	0.78
Severity of Crash	
Property Only	32
Injury	17
Fatality	0
Hit and Run	0
Not Reported (other)	1
Manner of Collision	
Angle	31
Rear-End	7
Rear-Rear	3
Head-On	5
Sideswipe	3
Single Vehicle	1
Other	0

[a] Crashes per Million Entering Vehicles (MEV)

[b] MassDOT's average crash rates for intersections are based on the latest information available as of June 2018

[c] Rain, snow, sleet/hail/freezing rain/freezing drizzle, blowing sand/snow; Wet, icy, or snowy road surface

The intersection of Alewife Brook Parkway and Broadway experienced the highest frequency of accidents over the five-year review period with a total of 50 accidents reported at the intersection, averaging 10.0 accidents per year. Most accidents involved property damage only (32 out of 50), occurred on dry pavement (42 out of 50), during daylight (26 out of 50), and involved angle type collisions (31 out of 50). The intersection was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities were reported at any of the study area intersections over the five-year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Alewife Brook Parkway and Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing.

3.3 Sight Distance

Stopping Sight Distance (SSD) is the length of the roadway ahead that is visible to the driver and should be long enough to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path. Stopping sight distance is the sum of the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied and the distance needed to stop the vehicle from the instant brake application begins.

Intersection Sight Distance (ISD) is the length of the leg of the departure sight triangle along the major road in both directions for a vehicle stopped on the minor road waiting to depart. The critical departure sight triangles for the proposed site driveway are for traffic approaching from either the left or right for left turns from driveway onto Sunnyside Avenue. The SSD and ISD values associated with a given design speed are shown in Table 2.

Table 2 – Sight Distance Criteria

DESIGN SPEED (MPH)	DESIGN STOPPING SIGHT DISTANCE VALUE[1] (FT)	RECOMMENDED INTERSECTION SIGHT DISTANCE VALUE[2] (FT)
15	80	170
20	115	225
25	155	280
30	200	335
35	250	390
40	305	445
45	360	500
50	425	555
55	495	610
60	570	665
65	645	720
70	730	775
75	820	830
80	910	885
Source: *A Policy on Geometric Design of Highways and Streets, AASHTO, Washington DC (2011)*		
[1]Design value based on a grade of less than 3%, a brake reaction distance predicted on a time of 2.5 seconds and a deceleration rate of 11.2 ft/s^2		
[2]Recommended value based on Case B1 - a stopped passenger car to turn left onto a two-lane highway with no median and grades 3% or less		

Using the statutory speed limit of 25 MPH for Sunnyside Avenue, we calculated the required sight distance at the Site Driveway. As shown in Table 3, both SSD and ISD values at the Site Driveway are sufficient to meet current traffic engineering standards.

Table 3 – Sight Distance Evaluation

Intersecting Street	Stopping Sight Distance (SSD)			Intersection Sight Distance (ISD)		
	Traveling	Calculated	Measured	Looking	Calculated	Measured
Site Driveway at Sunnyside Avenue	NB	155	180	Right	280	210[a]
	SB	155	310	Left	280	280
[a]Clear line of sight provided to Broadway						

4 Future No-Build Traffic Conditions

Nitsch Engineering used the 2020 existing traffic volumes as the baseline for projecting traffic volumes to future 2027 No-Build conditions. To determine future 2027 conditions, the following steps are included:

- Project existing 2020 traffic volumes seven years in the future to the horizon year (2027) using an annual background traffic growth factor to account for regional growth;
- Add traffic volumes associated with any planned developments that may impact the study area;
- Include any planned roadway improvements that may affect traffic volumes; and
- Analyze the study area location to determine future traffic operations.

4.1 Background Growth

We reviewed the Town of Arlington's 2015 Master Plan to determine an appropriate growth rate to apply to the 2020 existing traffic volumes. As noted in Table 2.1 in Chapter 2 of the Master Plan, the expected growth from 2020 to 2030 is 3.3%, which equates to an annual 0.33% background growth rate. Understanding that development is increasing in the Greater Boston Area, we selected a conservative rate of 2.0% per year to represent regional background growth of traffic in this area. We applied this growth rate over the 7-year design period for the turning movement data.

4.2 Additional Development

Nitsch Engineering researched past traffic reports to obtain information on proposed development near the study area. We identified the following three development projects that can impact traffic within the study area.

21 Broadway, Arlington, MA- Retail Marijuana Dispensary

The project proposes renovating a 3,000-square-foot vacant bank to develop a marijuana dispensary at 21 Broadway. The site's access will be served by one entrance-only driveway along Broadway and one exit-only driveway along Sunnyside Avenue. We obtained the project generated trips and trip assignment for the weekday evening peak hour from the Traffic Impact Assessment conducted by Vanasse & Associates, Inc., and used them in our analysis. Since the dispensary would open its business after the weekday morning peak hour, we have not generated or included weekday morning peak hour trips associated with this project for our analysis.

34 North Street, Somerville, MA- Clarendon Hill Redevelopment

The project proposes to demolish 216 existing apartment units and replace them with 591 new residential units at 34 North Street. We obtained the site-generated traffic and trip assignment for both weekday morning and weekday evening peak hours from the Traffic Impact and Access Study conducted by Design Consultants, Inc., and used them in our analysis.

1154 Broadway, Somerville, MA- Broadway Hotel

The project proposes constructing one building with 75 hotel rooms, a coffee shop, a fitness center, a restaurant, and a rooftop on a vacant lot at 1154 Broadway. We obtained the site-generated trips and trip assignments for both weekday morning and weekday evening peak hours from the Traffic Impact and Access Study conducted by

Design Consultants, Inc. However, the trip assignments do not include our study intersections. Therefore, we used the existing distribution at our study intersections to distribute trips from this project.

Appendix B includes the trip assignment diagrams from the projects mentioned above.

4.3 2027 No-Build Traffic Volumes

We developed the 2027 No-Build volumes by applying annual growth rates for seven years to the 2020 Existing conditions volumes turning movements at the three study intersections and then we added to all three study intersections the trips generated by the additional development projects. Figure 3 presents the peak hour traffic volumes for 2027 No-Build conditions.



Figure 3: 2027 No-Build Peak Hour Volumes
10 Sunnyside Avenue
Arlington, MA

Data Source: BingMaps
Nitsch Project #: 14424

5 Future Build Conditions

5.1 Proposed Site Changes

The proponent proposes to modify and expand the existing site, currently occupied by an approximate 5,400-square-foot Automotive Center, to develop one mixed-use building on site with approximately 8,000 sq/ft of general office and approximately 20,000 sq/ft of residential space that includes five condominiums. The site will also include an indoor parking garage and surface parking to accommodate a total of 21 vehicle parking spaces and 34 bicycle spaces. Access to the site will remain as existing; one curb cut off Sunnyside Avenue.

5.2 2027 Build Traffic Volumes

The 2027 Build traffic volumes comprise the 2027 No-Build volumes and the vehicle trips generated by the proposed development. The individual turning movements were applied to the study intersections.

5.2.1 Proposed Trip Generation

We estimated the trip generation for the proposed land uses to obtain the trips generated by the proposed Project using the Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition.*[1] For the new condominium complex, we used LUC 220 – "Multifamily Housing (Low-Rise)", which includes apartments, townhouses, and condominiums located within the same building with at least three (3) other dwelling units. For the offices, we used LUC 710 – "General Office Buildings." As the existing land use did not generate any trips during the count periods, a trip generation credit was not applied. The total future trips are shown in Table 4.

Table 4 – Peak Hour Trip Generation

Period	Direction	Future Peak Hour Trips		
		Apartment Trips	Office Trips	Total Trips
Weekday morning	Enter	0	8	8
	Exit	2	1	3
	Total	**2**	**9**	**11**
Weekday evening	Enter	2	1	3
	Exit	1	8	9
	Total	**3**	**9**	**12**

Detailed trip generation calculations are provided in Appendix C.

5.2.2 Project Trip Distribution and Assignment

The traffic volume to and from the proposed development site will be distributed and assigned for the weekday morning and weekday evening peak hours based on the existing travel patterns and logical travel routes, which are based on the existing roadway network both within the Town and the surrounding region.

[1] *Trip Generation*, Institute of Transportation Engineers, 10th Edition, 2016, Washington, D.C.

To distribute the site generated traffic volume through the roadway network, the volumes in Table 4 were multiplied by the trip distribution percentages assigned to the additional intersection volumes. The site-generated traffic volumes are shown on Figure 4 for the weekday morning and weekday evening peak hours.

The Build Condition traffic volumes were calculated by combining the No-Build traffic volumes with the site-generated traffic volumes, which are shown on Figure 5.



Figure 4: Trip Assignment
10 Sunnyside Avenue
Arlington, MA

Data Source: BingMaps
Nitsch Project #: 14424

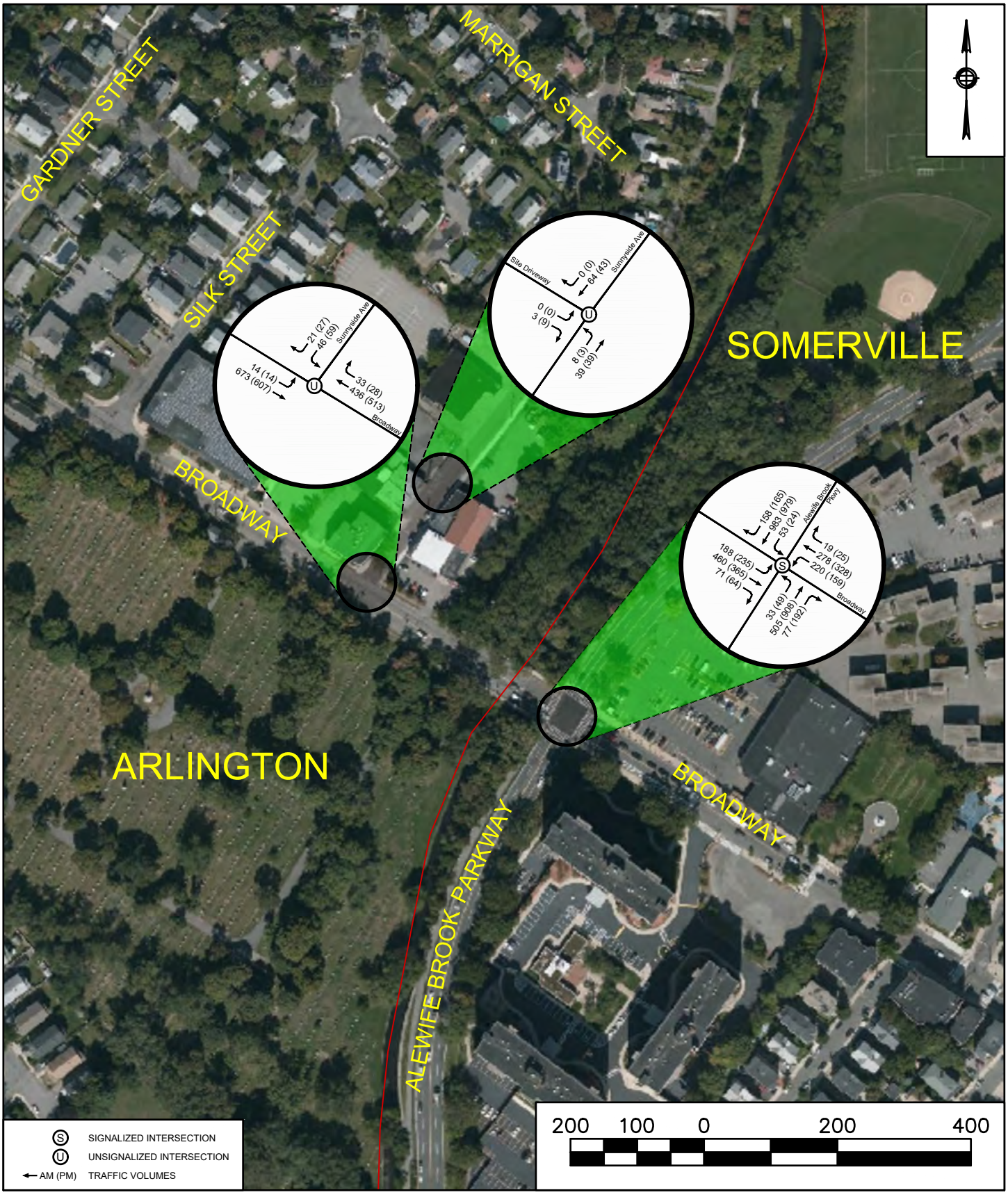


Figure 5: 2027 Build Peak Hour Volumes
10 Sunnyside Avenue
Arlington, MA

Data Source: BingMaps
Nitsch Project #: 14424

6 Traffic Analysis

6.1 Evaluation Criteria

Traffic operations at intersections are evaluated using the performance measures of average vehicular delay, level of service (LOS), volume-to-capacity (v/c) ratio, and average and 95th percentile queue lengths.

LOS is a qualitative measure that describes operating conditions through letter designations, from A to F. It is defined for intersections in terms of average control delay per vehicle. LOS A indicates the most favorable condition, with minimum traffic delay. LOS F represents the worst condition where there is significant traffic delay. LOS D or better is typically considered desirable for peak-hour operation in urban and suburban settings. The delay designations for each LOS level differ slightly between signalized and unsignalized intersections due to driver expectations and behavior. Table 5 summarizes the LOS criteria for intersections as used in this analysis.

Table 5 – Intersection Level of Service Criteria

Level of Service	Average Control Delay (sec/veh)	
	Signalized	Unsignalized
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50
Source: HCM 2000		

For signalized intersections, LOS is reported by lane group, by approach, and for the entire intersection. For unsignalized intersections, the analysis assumes that the traffic on the mainline is not affected by traffic on the side street. As such, an unsignalized intersection's LOS is generally reported for left-turns on the mainline and all side street movements, and an overall intersection LOS is not determined.

The v/c ratio is a measure of congestion at an intersection approach. The capacity of a facility is the maximum hourly rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway under prevailing roadway, traffic, and control conditions. A v/c ratio below one indicates that the intersection approach has adequate capacity to serve the arriving traffic demand. A v/c ratio that approaches or exceeds 1.0 indicates traffic congestion or poor operating conditions. In that situation, vehicles arrive faster than they can be served, so queue lengths can theoretically grow indefinitely, which is the unstable condition.

Since arrival volumes fluctuate throughout the peak hour, queue lengths vary. The average (50th percentile) queue length represents the maximum back of queue on a typical cycle for a signalized intersection. Average queue lengths are not reported for unsignalized intersections. The 95th percentile queue, reported for both signalized and unsignalized intersections, occurs with 95th percentile traffic volumes, and its length commonly denotes the farthest extent of the vehicle queue.

6.2 Capacity Analyses

We performed capacity analyses for the study intersections under 2020 Existing conditions, 2027 No-Build conditions, and 2027 Build conditions during the weekday morning and weekday evening peak hours using Trafficware's Synchro 10 software. Synchro uses, in part, the traffic operational analysis methodology of the Transportation Research Board's *Highway Capacity Manual* (HCM).[2] We generated the results of the capacity analyses using Synchro's Percentile Delay Method for delay, v/c ratio, and queue lengths, supported by HCM 2000 methodology for unsignalized intersection analysis. The Synchro output sheets for the capacity analyses are included in Appendix D.

6.2.1 2020 Existing Conditions Capacity Analysis

The first analysis evaluated traffic operations with 2020 existing traffic volumes under existing geometric conditions and signal timing/phasing. We derived peak hour factors (PHFs) and heavy vehicle percentages from the TMC data. We applied PHFs on an approach-by-approach basis, and we applied heavy vehicle percentages by lane group. Table 6 summarizes the capacity analysis results for the 2020 Existing conditions.

Table 6 – Capacity Analysis Summary: 2020 Existing Conditions

Location	Direction / Movement[a]	Weekday Morning Peak Hour					Weekday Evening Peak Hour				
		v/c Ratio[b]	Delay[c]	LOS	Queue[d]		v/c Ratio[b]	Delay[c]	LOS	Queue[d]	
					50th	95th				50th	95th
Alewife Brook Pkwy (Rt 16) and Broadway *[signalized]*	Broadway EB – LTR	1.03	95.8	F	~317	#443	0.99	84.9	F	286	#384
	Broadway WB – LTR	0.95	84.2	F	217	#327	0.91	77.4	E	203	#298
	Route 16 NB – LTR	0.71	39.6	D	222	290	1.16	119.5	F	~540	#677
	Route 16 SB – LTR	1.07	87.4	F	~559	#696	1.09	93.9	F	~553	#690
	Overall	***1.07***	***78.9***	***E***	***-***	***-***	***1.16***	***97.9***	***F***	***-***	***-***
Sunnyside Ave and Broadway *[unsignalized]*	Broadway EB – L	0.01	8.4	A	-	0	0.02	9.1	A	-	0
	Sunnyside Ave SB – LR	0.52	34.8	D	-	70	0.21	23.2	C	-	20

[a] Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound;
Movement: L = Left-turn, T = Through movement, R = Right-turn
[b] Overall v/c ratio is the maximum v/c ratio among lane groups
[c] Average vehicle delay (seconds)
[d] 50th and 95th percentile queue lengths (feet) based upon average vehicle length of 25 feet
~ Volume exceeds capacity, queue is theoretically infinite; queue shown is maximum after two cycles
95th percentile volume exceeds capacity, queue may be longer; queue shown is maximum after two cycles

Under 2020 Existing conditions, the intersection of Alewife Brook Parkway and Broadway will operate at overall LOS E and F during the weekday morning and weekday evening peak hours, respectively. Extensive queuing and high v/c ratios are calculated at most approaches to the Alewife Brook Parkway/Broadway intersection with some approaches exceed 1.0 v/c ratio. At intersection of Sunnyside Avenue and Broadway, the eastbound left-turn will operate at LOS A during both peak hours; however, the southbound approach will operate at LOS D and C during the weekday morning and weekday evening peak hours, respectively. **Note, the westbound approach at the intersection of Sunnyside Avenue and Broadway is not represented on this table as the through and right turns are non-conflicting movements which will operate without delay.**

[2] *Highway Capacity Manual 2000 (HCM 2000)*, Transportation Research Board, Washington, D.C., 2000.

6.2.2 2027 No-Build Conditions Capacity Analysis

Under future No-Build conditions, we kept lane geometry, traffic control, and signal timing parameters the same as existing. We applied the future volumes determined in Section 4.3 (Figure 3) with the same heavy vehicle percentages and PHFs as existing. Table 7 summarizes the analysis results for 2027 No-Build conditions.

Table 7 – Capacity Analysis Summary: 2027 No-Build Conditions

Location	Direction / Movement[a]	Weekday Morning Peak Hour					Weekday Evening Peak Hour				
		v/c Ratio[b]	Delay[c]	LOS	Queue[d] 50th	Queue[d] 95th	v/c Ratio[b]	Delay[c]	LOS	Queue[d] 50th	Queue[d] 95th
Alewife Brook Pkwy (Rt 16) and Broadway *[signalized]*	Broadway EB – LTR	1.20	151.2	F	~421	#552	1.19	147.0	F	~414	#507
	Broadway WB – LTR	1.10	121.7	F	~285	#406	1.03	102.1	F	~256	#375
	Route 16 NB – LTR	0.93	58.5	E	291	#412	1.70	348.5	F	~791	#932
	Route 16 SB – LTR	1.34	194.3	F	~760	#899	1.45	242.3	F	~777	#917
	Overall	***1.34***	***143.8***	***F***	***-***	***-***	***1.70***	***236.9***	***F***	***-***	***-***
Sunnyside Ave and Broadway *[unsignalized]*	Broadway EB – L	0.01	8.6	A	-	0	0.02	9.5	A	-	2.5
	Sunnyside Ave SB – LR	0.75	64.4	F	-	125	0.60	50.4	F	-	82.5

[a] Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound;
Movement: L = Left-turn, T = Through movement, R = Right-turn
[b] Overall v/c ratio is the maximum v/c ratio among lane groups
[c] Average vehicle delay (seconds)
[d] 50th and 95th percentile queue lengths (feet) based upon average vehicle length of 25 feet
~ Volume exceeds capacity, queue is theoretically infinite; queue shown is maximum after two cycles
95th percentile volume exceeds capacity, queue may be longer; queue shown is maximum after two cycles

Under 2027 No-Build conditions, all movements will experience an increase in v/c ratio, delay, and queue length except for the eastbound approach to the Sunnyside Avenue/Broadway intersection, which will continue to operate at LOS A during both peak hours. At the intersection of Alewife Brook Parkway and Broadway, the overall intersection will degrade from LOS E to F during the weekday morning peak hour, the northbound approach will degrade from LOS D to E during the weekday morning peak hour, and the westbound approach will degrade from LOS E to F during the weekday evening peak hour.

6.2.3 2027 Build Conditions Capacity Analysis

We performed capacity analyses for the proposed build conditions for the future development. Under these future Build conditions, we kept lane geometry, traffic control, and signal timing parameters the same as existing for all four study intersections. We applied the future volumes determined in Section 5.2 (Figure 5) with the same heavy vehicle percentages and PHFs as existing. Table 8 summarizes the analysis results for the 2027 Build conditions.

Table 8 – Capacity Analysis Summary: 2027 Build Conditions

Location	Direction / Movement[a]	Weekday Morning Peak Hour					Weekday Evening Peak Hour				
		v/c Ratio[b]	Delay[c]	LOS	Queue[d]		v/c Ratio[b]	Delay[c]	LOS	Queue[d]	
					50th	95th				50th	95th
Alewife Brook Pkwy (Rt 16) and Broadway *[signalized]*	Broadway EB – LTR	1.21	152.4	F	~422	#553	1.20	150.6	F	~420	#513
	Broadway WB – LTR	1.11	123.6	F	~288	#408	1.03	102.6	F	~257	#377
	Route 16 NB – LTR	0.93	58.7	E	291	#412	1.70	348.5	F	~791	#932
	Route 16 SB – LTR	1.34	194.6	F	~761	#901	1.45	242.8	F	~778	#918
	Overall	***1.34***	***144.5***	***F***	***-***	***-***	***1.70***	***237.6***	***F***	***-***	***-***
Sunnyside Ave and Broadway *[unsignalized]*	Broadway EB – L	0.02	8.7	A	-	0	0.02	9.6	A	-	2.5
	Sunnyside Ave SB – LR	0.80	72.3	F	-	137.5	0.67	58.5	F	-	100
Sunnyside Ave and Site Dwy *[unsignalized]*	Site Dwy EB – LR	0.00	8.6	A	-	0.00	0.01	8.6	A	-	0
	Sunnyside Ave NB – L	0.00	7.4	A	-	0.00	0	7.3	A	-	0

[a] Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound;
Movement: L = Left-turn, T = Through movement, R = Right-turn
[b] Overall v/c ratio is the maximum v/c ratio among lane groups
[c] Average vehicle delay (seconds)
[d] 50th and 95th percentile queue lengths (feet) based upon average vehicle length of 25 feet
~ Volume exceeds capacity, queue is theoretically infinite; queue shown is maximum after two cycles
95th percentile volume exceeds capacity, queue may be longer; queue shown is maximum after two cycles

Under 2027 Build conditions, all movements will continue to operate at No-Build conditions. All movements at the intersection of Sunnyside Avenue and the Site Driveway will operate at LOS A. **Similar to the Sunnyside Avenue/Broadway intersection, the southbound approach at the intersection of Sunnyside Avenue and the Site Driveway is not represented on this table as the through and right turns are non-conflicting movements which will operate without delay.**

7 Conclusions and Recommendations

Nitsch Engineering has prepared this Traffic Impact Study (TIS) for the proposed two-building development at 10 Sunnyside Avenue in Arlington, Massachusetts.

We studied three intersections, one signalized and two unsignalized, to establish the impact the development would have on intersection traffic operations.

The crash data over the last three years available from MassDOT indicate that intersection of Alewife Brook Parkway and Broadway was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities were reported at any of the study area intersections over the five-year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Alewife Brook Parkway and Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing. The Broadway at Sunnyside Avenue intersection is not listed as a HSIP location and has a crash rate below the MassDOT average.

We collected turning movement counts at the three study intersections. We adjusted the counts upward to account for the COVID-19 pandemic's effect on traffic patterns to become our baseline Existing conditions traffic volumes. For future conditions, we projected the Existing conditions traffic volumes over a seven-year period to the horizon year 2027 using an annual growth rate of 2.0% based on expected regional growth to become our future No-Build conditions volumes. We estimated the quantity of vehicle trips the proposed development would generate based on Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition* criteria.

We performed a vehicle capacity analysis to compare the weekday morning and weekday evening peak hours of the 2020 Existing conditions, 2027 No-Build conditions, and 2027 Build conditions for each of the three study intersections. Under all conditions, the intersection of Alewife Brook Parkway and Broadway will operate poorly with most of the movements operating at LOS F. However, all movements for both intersections in Build condition will continue to operate at No-Build conditions with only minor increases in delay and queuing. The intersection of Sunnyside Avenue and the Site Driveway will operate at LOS A for all movements.

As the project is not anticipated to have a significant impact to traffic operations at the study intersections, no mitigation is recommended at this time.

APPENDIX CONTENTS

Appendix	Description
A	Traffic Count Data
B	Additional Developments' Trip Generation
C	Detailed Trip Generation
D	Capacity Analysis

Appendix A: Traffic Count Data

Location Map: 207732 Arlington, MA

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com



Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
Nitsch Engineering	B. Zimolka	TBA	Thursday 12/3/2020	207732	Arlington, MA

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	10	179	0	0	189	3	26	19	0	48	14	84	1	0	99	7	26	15	0	48	384
7:15 AM	2	199	1	0	202	5	33	21	0	59	17	85	4	0	106	10	37	23	0	70	437
7:30 AM	10	177	0	0	187	1	30	35	0	66	15	94	3	0	112	9	36	21	0	66	431
7:45 AM	11	242	4	0	257	2	31	26	0	59	21	106	5	0	132	18	26	15	0	59	507
Total	33	797	5	0	835	11	120	101	0	232	67	369	13	0	449	44	125	74	0	243	1759
8:00 AM	14	186	10	0	210	8	17	26	0	51	22	101	5	0	128	7	37	16	0	60	449
8:15 AM	8	169	3	0	180	3	29	22	0	54	22	115	5	0	142	15	29	9	0	53	429
8:30 AM	5	174	2	0	181	3	24	25	0	52	19	110	4	0	133	10	27	19	0	56	422
8:45 AM	16	156	4	0	176	4	29	33	0	66	23	104	2	0	129	11	35	18	0	64	435
Total	43	685	19	0	747	18	99	106	0	223	86	430	16	0	532	43	128	62	0	233	1735
Grand Total	76	1482	24	0	1582	29	219	207	0	455	153	799	29	0	981	87	253	136	0	476	3494
Approach %	4.8	93.7	1.5	0.0		6.4	48.1	45.5	0.0		15.6	81.4	3.0	0.0		18.3	53.2	28.6	0.0		
Total %	2.2	42.4	0.7	0.0	45.3	0.8	6.3	5.9	0.0	13.0	4.4	22.9	0.8	0.0	28.1	2.5	7.2	3.9	0.0	13.6	
Exiting Leg Total					964					430					1776					324	3494
Cars	73	1466	24	0	1563	27	197	202	0	426	138	779	29	0	946	86	231	135	0	452	3387
% Cars	96.1	98.9	100.0	0.0	98.8	93.1	90.0	97.6	0.0	93.6	90.2	97.5	100.0	0.0	96.4	98.9	91.3	99.3	0.0	95.0	96.9
Exiting Leg Total					941					393					1754					299	3387
Heavy Vehicles	3	16	0	0	19	2	22	5	0	29	15	20	0	0	35	1	22	1	0	24	107
% Heavy Vehicles	3.9	1.1	0.0	0.0	1.2	6.9	10.0	2.4	0.0	6.4	9.8	2.5	0.0	0.0	3.6	1.1	8.7	0.7	0.0	5.0	3.1
Exiting Leg Total					23					37					22					25	107

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	2	199	1	0	202	5	33	21	0	59	17	85	4	0	106	10	37	23	0	70	437
7:30 AM	10	177	0	0	187	1	30	35	0	66	15	94	3	0	112	9	36	21	0	66	431
7:45 AM	11	242	4	0	257	2	31	26	0	59	21	106	5	0	132	18	26	15	0	59	507
8:00 AM	14	186	10	0	210	8	17	26	0	51	22	101	5	0	128	7	37	16	0	60	449
Total Volume	37	804	15	0	856	16	111	108	0	235	75	386	17	0	478	44	136	75	0	255	1824
% Approach Total	4.3	93.9	1.8	0.0		6.8	47.2	46.0	0.0		15.7	80.8	3.6	0.0		17.3	53.3	29.4	0.0		
PHF	0.661	0.831	0.375	0.000	0.833	0.500	0.841	0.771	0.000	0.890	0.852	0.910	0.850	0.000	0.905	0.611	0.919	0.815	0.000	0.911	0.899
Cars	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
Cars %	97.3	98.9	100.0	0.0	98.8	87.5	91.9	97.2	0.0	94.0	92.0	97.2	100.0	0.0	96.4	97.7	93.4	98.7	0.0	95.7	97.1
Heavy Vehicles	1	9	0	0	10	2	9	3	0	14	6	11	0	0	17	1	9	1	0	11	52
Heavy Vehicles %	2.7	1.1	0.0	0.0	1.2	12.5	8.1	2.8	0.0	6.0	8.0	2.8	0.0	0.0	3.6	2.3	6.6	1.3	0.0	4.3	2.9
Cars Enter Leg	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
Heavy Enter Leg	1	9	0	0	10	2	9	3	0	14	6	11	0	0	17	1	9	1	0	11	52
Total Entering Leg	37	804	15	0	856	16	111	108	0	235	75	386	17	0	478	44	136	75	0	255	1824
Cars Exiting Leg					463					211					943					155	1772
Heavy Exiting Leg					14					15					13					10	52
Total Exiting Leg					477					226					956					165	1824

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	9	176	0	0	185	3	23	19	0	45	11	80	1	0	92	7	24	15	0	46	368
7:15 AM	2	198	1	0	201	4	30	21	0	55	15	84	4	0	103	9	32	23	0	64	423
7:30 AM	10	175	0	0	185	1	28	33	0	62	12	91	3	0	106	9	34	21	0	64	417
7:45 AM	10	239	4	0	253	2	28	26	0	56	21	101	5	0	127	18	25	14	0	57	493
Total	31	788	5	0	824	10	109	99	0	218	59	356	13	0	428	43	115	73	0	231	1701
8:00 AM	14	183	10	0	207	7	16	25	0	48	21	99	5	0	125	7	36	16	0	59	439
8:15 AM	7	168	3	0	178	3	25	22	0	50	18	115	5	0	138	15	26	9	0	50	416
8:30 AM	5	174	2	0	181	3	20	23	0	46	18	108	4	0	130	10	21	19	0	50	407
8:45 AM	16	153	4	0	173	4	27	33	0	64	22	101	2	0	125	11	33	18	0	62	424
Total	42	678	19	0	739	17	88	103	0	208	79	423	16	0	518	43	116	62	0	221	1686
Grand Total	73	1466	24	0	1563	27	197	202	0	426	138	779	29	0	946	86	231	135	0	452	3387
Approach %	4.7	93.8	1.5	0.0		6.3	46.2	47.4	0.0		14.6	82.3	3.1	0.0		19.0	51.1	29.9	0.0		
Total %	2.2	43.3	0.7	0.0	46.1	0.8	5.8	6.0	0.0	12.6	4.1	23.0	0.9	0.0	27.9	2.5	6.8	4.0	0.0	13.3	
Exiting Leg Total					941					393					1754					299	3387

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	2	198	1	0	201	4	30	21	0	55	15	84	4	0	103	9	32	23	0	64	423
7:30 AM	10	175	0	0	185	1	28	33	0	62	12	91	3	0	106	9	34	21	0	64	417
7:45 AM	10	239	4	0	253	2	28	26	0	56	21	101	5	0	127	18	25	14	0	57	493
8:00 AM	14	183	10	0	207	7	16	25	0	48	21	99	5	0	125	7	36	16	0	59	439
Total Volume	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
% Approach Total	4.3	94.0	1.8	0.0		6.3	46.2	47.5	0.0		15.0	81.3	3.7	0.0		17.6	52.0	30.3	0.0		
PHF	0.643	0.832	0.375	0.000	0.836	0.500	0.850	0.795	0.000	0.891	0.821	0.928	0.850	0.000	0.907	0.597	0.882	0.804	0.000	0.953	0.899
Entering Leg	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
Exiting Leg					463					211					943					155	1772
Total					1309					432					1404					399	3544

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	3	0	0	4	0	3	0	0	3	3	4	0	0	7	0	2	0	0	2	16
7:15 AM	0	1	0	0	1	1	3	0	0	4	2	1	0	0	3	1	5	0	0	6	14
7:30 AM	0	2	0	0	2	0	2	2	0	4	3	3	0	0	6	0	2	0	0	2	14
7:45 AM	1	3	0	0	4	0	3	0	0	3	0	5	0	0	5	0	1	1	0	2	14
Total	2	9	0	0	11	1	11	2	0	14	8	13	0	0	21	1	10	1	0	12	58
8:00 AM	0	3	0	0	3	1	1	1	0	3	1	2	0	0	3	0	1	0	0	1	10
8:15 AM	1	1	0	0	2	0	4	0	0	4	4	0	0	0	4	0	3	0	0	3	13
8:30 AM	0	0	0	0	0	0	4	2	0	6	1	2	0	0	3	0	6	0	0	6	15
8:45 AM	0	3	0	0	3	0	2	0	0	2	1	3	0	0	4	0	2	0	0	2	11
Total	1	7	0	0	8	1	11	3	0	15	7	7	0	0	14	0	12	0	0	12	49
Grand Total	3	16	0	0	19	2	22	5	0	29	15	20	0	0	35	1	22	1	0	24	107
Approach %	15.8	84.2	0.0	0.0		6.9	75.9	17.2	0.0		42.9	57.1	0.0	0.0		4.2	91.7	4.2	0.0		
Total %	2.8	15.0	0.0	0.0	17.8	1.9	20.6	4.7	0.0	27.1	14.0	18.7	0.0	0.0	32.7	0.9	20.6	0.9	0.0	22.4	
Exiting Leg Total					23					37					22					25	107
Buses	1	2	0	0	3	0	10	3	0	13	1	2	0	0	3	0	12	0	0	12	31
% Buses	33.3	12.5	0.0	0.0	15.8	0.0	45.5	60.0	0.0	44.8	6.7	10.0	0.0	0.0	8.6	0.0	54.5	0.0	0.0	50.0	29.0
Exiting Leg Total					2					13					5					11	31
Single-Unit Trucks	2	13	0	0	15	2	11	2	0	15	13	17	0	0	30	1	6	1	0	8	68
% Single-Unit	66.7	81.3	0.0	0.0	78.9	100.0	50.0	40.0	0.0	51.7	86.7	85.0	0.0	0.0	85.7	100.0	27.3	100.0	0.0	33.3	63.6
Exiting Leg Total					20					19					16					13	68
Articulated Trucks	0	1	0	0	1	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	8
% Articulated	0.0	6.3	0.0	0.0	5.3	0.0	4.5	0.0	0.0	3.4	6.7	5.0	0.0	0.0	5.7	0.0	18.2	0.0	0.0	16.7	7.5
Exiting Leg Total					1					5					1					1	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	3	0	0	4	0	3	0	0	3	3	4	0	0	7	0	2	0	0	2	16
7:15 AM	0	1	0	0	1	1	3	0	0	4	2	1	0	0	3	1	5	0	0	6	14
7:30 AM	0	2	0	0	2	0	2	2	0	4	3	3	0	0	6	0	2	0	0	2	14
7:45 AM	1	3	0	0	4	0	3	0	0	3	0	5	0	0	5	0	1	1	0	2	14
Total Volume	2	9	0	0	11	1	11	2	0	14	8	13	0	0	21	1	10	1	0	12	58
% Approach Total	18.2	81.8	0.0	0.0		7.1	78.6	14.3	0.0		38.1	61.9	0.0	0.0		8.3	83.3	8.3	0.0		
PHF	0.500	0.750	0.000	0.000	0.688	0.250	0.917	0.250	0.000	0.875	0.667	0.650	0.000	0.000	0.750	0.250	0.500	0.250	0.000	0.500	0.906
Buses	1	1	0	0	2	0	6	2	0	8	0	1	0	0	1	0	4	0	0	4	15
Buses %	50.0	11.1	0.0	0.0	18.2	0.0	54.5	100.0	0.0	57.1	0.0	7.7	0.0	0.0	4.8	0.0	40.0	0.0	0.0	33.3	25.9
Single-Unit Trucks	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
Single-Unit %	50.0	88.9	0.0	0.0	81.8	100.0	45.5	0.0	0.0	42.9	87.5	84.6	0.0	0.0	85.7	100.0	30.0	100.0	0.0	41.7	65.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	7.7	0.0	0.0	9.5	0.0	30.0	0.0	0.0	25.0	8.6
Buses	1	1	0	0	2	0	6	2	0	8	0	1	0	0	1	0	4	0	0	4	15
Single-Unit Trucks	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5
Total Entering Leg	2	9	0	0	11	1	11	2	0	14	8	13	0	0	21	1	10	1	0	12	58
Buses					1					4					3					7	15
Single-Unit Trucks					13					10					9					6	38
Articulated Trucks					1					4					0					0	5
Total Exiting Leg					15					18					12					13	58

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	5
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
7:30 AM	0	0	0	0	0	0	1	2	0	3	0	1	0	0	1	0	1	0	0	1	5
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
Total	1	1	0	0	2	0	6	2	0	8	0	1	0	0	1	0	4	0	0	4	15
8:00 AM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	4
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
8:45 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
Total	0	1	0	0	1	0	4	1	0	5	1	1	0	0	2	0	8	0	0	8	16
Grand Total	1	2	0	0	3	0	10	3	0	13	1	2	0	0	3	0	12	0	0	12	31
Approach %	33.3	66.7	0.0	0.0		0.0	76.9	23.1	0.0		33.3	66.7	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	3.2	6.5	0.0	0.0	9.7	0.0	32.3	9.7	0.0	41.9	3.2	6.5	0.0	0.0	9.7	0.0	38.7	0.0	0.0	38.7	
Exiting Leg Total					2					13					5					11	31

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	4
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
8:45 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
Total Volume	0	1	0	0	1	0	4	1	0	5	1	1	0	0	2	0	8	0	0	8	16
% Approach Total	0.0	100.0	0.0	0.0		0.0	80.0	20.0	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	1.000	0.250	0.000	0.625	0.250	0.250	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.500	0.800
Entering Leg	0	1	0	0	1	0	4	1	0	5	1	1	0	0	2	0	8	0	0	8	16
Exiting Leg					1					9					2					4	16
Total					2					14					4					12	32

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	2	0	0	3	0	0	0	0	0	2	4	0	0	6	0	1	0	0	1	10
7:15 AM	0	1	0	0	1	1	2	0	0	3	2	1	0	0	3	1	2	0	0	3	10
7:30 AM	0	2	0	0	2	0	1	0	0	1	3	2	0	0	5	0	0	0	0	0	8
7:45 AM	0	3	0	0	3	0	2	0	0	2	0	4	0	0	4	0	0	1	0	1	10
Total	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
8:00 AM	0	2	0	0	2	1	0	0	0	1	1	1	0	0	2	0	1	0	0	1	6
8:15 AM	1	1	0	0	2	0	2	0	0	2	3	0	0	0	3	0	1	0	0	1	8
8:30 AM	0	0	0	0	0	0	3	2	0	5	1	2	0	0	3	0	1	0	0	1	9
8:45 AM	0	2	0	0	2	0	1	0	0	1	1	3	0	0	4	0	0	0	0	0	7
Total	1	5	0	0	6	1	6	2	0	9	6	6	0	0	12	0	3	0	0	3	30
Grand Total	2	13	0	0	15	2	11	2	0	15	13	17	0	0	30	1	6	1	0	8	68
Approach %	13.3	86.7	0.0	0.0		13.3	73.3	13.3	0.0		43.3	56.7	0.0	0.0		12.5	75.0	12.5	0.0		
Total %	2.9	19.1	0.0	0.0	22.1	2.9	16.2	2.9	0.0	22.1	19.1	25.0	0.0	0.0	44.1	1.5	8.8	1.5	0.0	11.8	
Exiting Leg Total					20					19					16					13	68

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	2	0	0	3	0	0	0	0	0	2	4	0	0	6	0	1	0	0	1	10
7:15 AM	0	1	0	0	1	1	2	0	0	3	2	1	0	0	3	1	2	0	0	3	10
7:30 AM	0	2	0	0	2	0	1	0	0	1	3	2	0	0	5	0	0	0	0	0	8
7:45 AM	0	3	0	0	3	0	2	0	0	2	0	4	0	0	4	0	0	1	0	1	10
Total Volume	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
% Approach Total	11.1	88.9	0.0	0.0		16.7	83.3	0.0	0.0		38.9	61.1	0.0	0.0		20.0	60.0	20.0	0.0		
PHF	0.250	0.667	0.000	0.000	0.750	0.250	0.625	0.000	0.000	0.500	0.583	0.688	0.000	0.000	0.750	0.250	0.375	0.250	0.000	0.417	0.950
Entering Leg	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
Exiting Leg					13					10					9					6	38
Total					22					16					27					11	76

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3
Grand Total	0	1	0	0	1	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	8
Approach %	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	12.5	0.0	0.0	12.5	0.0	12.5	0.0	0.0	12.5	12.5	12.5	0.0	0.0	25.0	0.0	50.0	0.0	0.0	50.0	
Exiting Leg Total					1					5					1					1	8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.375	0.000	0.000	0.375	0.625
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5
Exiting Leg					1					4					0					0	5
Total					1					4					2					3	10

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
7:15 AM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	3	5
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	5	6	7
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3
Total	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	9	13	17
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	2	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	4
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	3	2	10	11
Grand Total	0	0	0	0	0	1	1	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	5	0	0	7	11	23	28
Approach %	0.0	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	21.7	0.0	0.0	30.4	47.8		
Total %	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	14.3	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0	25.0	39.3	82.1	
Exiting Leg Total							1							5							0							22	28

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
7:15 AM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	3	5
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	5	6	7
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3
Total Volume	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	9	13	17
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	30.8	69.2		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.450	0.542	0.607
Entering Leg	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	9	13	17
Exiting Leg							1							0							0							16	17
Total							2							3							0							29	34

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	1	1	2	8
7:15 AM	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	4	0	4	10
7:30 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	1	0	1	12
7:45 AM	0	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	4	0	4	15
Total	0	0	0	0	12	8	20	0	0	0	0	0	0	0	0	0	0	0	5	9	14	0	0	0	0	10	1	11	45
8:00 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4	2	6	17
8:15 AM	0	0	0	0	2	3	5	0	0	0	0	0	2	2	0	0	0	0	3	2	5	0	0	0	0	0	4	4	16
8:30 AM	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	3	1	4	11
8:45 AM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	7
Total	0	0	0	0	13	6	19	0	0	0	0	0	2	2	0	0	0	0	3	13	16	0	0	0	0	7	7	14	51
Grand Total	0	0	0	0	25	14	39	0	0	0	0	0	2	2	0	0	0	0	8	22	30	0	0	0	0	17	8	25	96
Approach %	0	0	0	0	64.1	35.9		0	0	0	0	0	100		0	0	0	0	26.7	73.3		0	0	0	0	68	32		
Total %	0	0	0	0	26	14.6	40.6	0	0	0	0	0	2.08	2.08	0	0	0	0	8.33	22.9	31.3	0	0	0	0	17.7	8.33	26	
Exiting Leg Total							39							2							30							25	96

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:30 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	1	0	1	12
7:45 AM	0	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	4	0	4	15
8:00 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4	2	6	17
8:15 AM	0	0	0	0	2	3	5	0	0	0	0	0	2	2	0	0	0	0	3	2	5	0	0	0	0	0	4	4	16
Total Volume	0	0	0	0	18	9	27	0	0	0	0	0	2	2	0	0	0	0	6	10	16	0	0	0	0	9	6	15	60
% Approach Total	0.0	0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	37.5	62.5		0.0	0.0	0.0	0.0	60.0	40.0		
PHF	0.000	0.000	0.000	0.000	0.750	0.563	0.844	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.500	0.625	0.800	0.000	0.000	0.000	0.000	0.563	0.375	0.625	0.882
Entering Leg	0	0	0	0	18	9	27	0	0	0	0	0	2	2	0	0	0	0	6	10	16	0	0	0	0	9	6	15	60
Exiting Leg							27							2							16							15	60
Total							54							4							32							30	120

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	16	147	5	0	168	5	33	30	0	68	40	164	3	0	207	6	37	29	0	72	515
4:15 PM	19	135	2	0	156	9	34	22	0	65	30	145	4	0	179	15	41	27	0	83	483
4:30 PM	12	130	3	0	145	3	31	20	0	54	32	189	6	0	227	7	48	32	0	87	513
4:45 PM	14	134	3	0	151	9	42	27	0	78	43	149	7	0	199	5	45	27	0	77	505
Total	61	546	13	0	620	26	140	99	0	265	145	647	20	0	812	33	171	115	0	319	2016
5:00 PM	19	109	1	0	129	5	29	24	0	58	40	149	2	0	191	4	42	36	0	82	460
5:15 PM	15	125	5	0	145	5	26	22	0	53	37	155	5	0	197	6	37	42	0	85	480
5:30 PM	10	154	9	0	173	3	45	21	0	69	48	155	2	0	205	6	47	28	0	81	528
5:45 PM	18	120	2	0	140	11	39	16	0	66	43	156	5	0	204	12	36	27	0	75	485
Total	62	508	17	0	587	24	139	83	0	246	168	615	14	0	797	28	162	133	0	323	1953
Grand Total	123	1054	30	0	1207	50	279	182	0	511	313	1262	34	0	1609	61	333	248	0	642	3969
Approach %	10.2	87.3	2.5	0.0		9.8	54.6	35.6	0.0		19.5	78.4	2.1	0.0		9.5	51.9	38.6	0.0		
Total %	3.1	26.6	0.8	0.0	30.4	1.3	7.0	4.6	0.0	12.9	7.9	31.8	0.9	0.0	40.5	1.5	8.4	6.2	0.0	16.2	
Exiting Leg Total					1560					676					1297					436	3969
Cars	123	1051	29	0	1203	48	266	178	0	492	312	1252	34	0	1598	61	325	248	0	634	3927
% Cars	100.0	99.7	96.7	0.0	99.7	96.0	95.3	97.8	0.0	96.3	99.7	99.2	100.0	0.0	99.3	100.0	97.6	100.0	0.0	98.8	98.9
Exiting Leg Total					1548					666					1290					423	3927
Heavy Vehicles	0	3	1	0	4	2	13	4	0	19	1	10	0	0	11	0	8	0	0	8	42
% Heavy Vehicles	0.0	0.3	3.3	0.0	0.3	4.0	4.7	2.2	0.0	3.7	0.3	0.8	0.0	0.0	0.7	0.0	2.4	0.0	0.0	1.2	1.1
Exiting Leg Total					12					10					7					13	42

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	16	147	5	0	168	5	33	30	0	68	40	164	3	0	207	6	37	29	0	72	515
4:15 PM	19	135	2	0	156	9	34	22	0	65	30	145	4	0	179	15	41	27	0	83	483
4:30 PM	12	130	3	0	145	3	31	20	0	54	32	189	6	0	227	7	48	32	0	87	513
4:45 PM	14	134	3	0	151	9	42	27	0	78	43	149	7	0	199	5	45	27	0	77	505
Total Volume	61	546	13	0	620	26	140	99	0	265	145	647	20	0	812	33	171	115	0	319	2016
% Approach Total	9.8	88.1	2.1	0.0		9.8	52.8	37.4	0.0		17.9	79.7	2.5	0.0		10.3	53.6	36.1	0.0		
PHF	0.803	0.929	0.650	0.000	0.923	0.722	0.833	0.825	0.000	0.849	0.843	0.856	0.714	0.000	0.894	0.550	0.891	0.898	0.000	0.917	0.979
Cars	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
Cars %	100.0	99.6	92.3	0.0	99.5	92.3	93.6	97.0	0.0	94.7	99.3	99.2	100.0	0.0	99.3	100.0	97.1	100.0	0.0	98.4	98.6
Heavy Vehicles	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
Heavy Vehicles %	0.0	0.4	7.7	0.0	0.5	7.7	6.4	3.0	0.0	5.3	0.7	0.8	0.0	0.0	0.7	0.0	2.9	0.0	0.0	1.6	1.4
Cars Enter Leg	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
Heavy Enter Leg	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
Total Entering Leg	61	546	13	0	620	26	140	99	0	265	145	647	20	0	812	33	171	115	0	319	2016
Cars Exiting Leg					781					322					673					212	1988
Heavy Exiting Leg					7					7					5					9	28
Total Exiting Leg					788					329					678					221	2016

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	16	147	5	0	168	5	29	28	0	62	39	163	3	0	205	6	36	29	0	71	506
4:15 PM	19	134	1	0	154	9	33	21	0	63	30	145	4	0	179	15	39	27	0	81	477
4:30 PM	12	129	3	0	144	2	28	20	0	50	32	185	6	0	223	7	47	32	0	86	503
4:45 PM	14	134	3	0	151	8	41	27	0	76	43	149	7	0	199	5	44	27	0	76	502
Total	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
5:00 PM	19	109	1	0	129	5	28	24	0	57	40	148	2	0	190	4	41	36	0	81	457
5:15 PM	15	125	5	0	145	5	26	21	0	52	37	154	5	0	196	6	36	42	0	84	477
5:30 PM	10	154	9	0	173	3	43	21	0	67	48	154	2	0	204	6	46	28	0	80	524
5:45 PM	18	119	2	0	139	11	38	16	0	65	43	154	5	0	202	12	36	27	0	75	481
Total	62	507	17	0	586	24	135	82	0	241	168	610	14	0	792	28	159	133	0	320	1939
Grand Total	123	1051	29	0	1203	48	266	178	0	492	312	1252	34	0	1598	61	325	248	0	634	3927
Approach %	10.2	87.4	2.4	0.0		9.8	54.1	36.2	0.0		19.5	78.3	2.1	0.0		9.6	51.3	39.1	0.0		
Total %	3.1	26.8	0.7	0.0	30.6	1.2	6.8	4.5	0.0	12.5	7.9	31.9	0.9	0.0	40.7	1.6	8.3	6.3	0.0	16.1	
Exiting Leg Total					1548					666					1290					423	3927

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	16	147	5	0	168	5	29	28	0	62	39	163	3	0	205	6	36	29	0	71	506
4:15 PM	19	134	1	0	154	9	33	21	0	63	30	145	4	0	179	15	39	27	0	81	477
4:30 PM	12	129	3	0	144	2	28	20	0	50	32	185	6	0	223	7	47	32	0	86	503
4:45 PM	14	134	3	0	151	8	41	27	0	76	43	149	7	0	199	5	44	27	0	76	502
Total Volume	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
% Approach Total	9.9	88.2	1.9	0.0		9.6	52.2	38.2	0.0		17.9	79.7	2.5	0.0		10.5	52.9	36.6	0.0		
PHF	0.803	0.925	0.600	0.000	0.918	0.667	0.799	0.857	0.000	0.826	0.837	0.868	0.714	0.000	0.904	0.550	0.883	0.898	0.000	0.913	0.982
Entering Leg	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
Exiting Leg					781					322					673					212	1988
Total					1398					573					1479					526	3976

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	2	0	6	1	1	0	0	2	0	1	0	0	1	9
4:15 PM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	1	0	0	1	1	3	0	0	4	0	4	0	0	4	0	1	0	0	1	10
4:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
5:30 PM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
5:45 PM	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	4
Total	0	1	0	0	1	0	4	1	0	5	0	5	0	0	5	0	3	0	0	3	14
Grand Total	0	3	1	0	4	2	13	4	0	19	1	10	0	0	11	0	8	0	0	8	42
Approach %	0.0	75.0	25.0	0.0		10.5	68.4	21.1	0.0		9.1	90.9	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	7.1	2.4	0.0	9.5	4.8	31.0	9.5	0.0	45.2	2.4	23.8	0.0	0.0	26.2	0.0	19.0	0.0	0.0	19.0	
Exiting Leg Total					12					10					7					13	42
Buses	0	0	0	0	0	0	9	2	0	11	1	1	0	0	2	0	6	0	0	6	19
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	69.2	50.0	0.0	57.9	100.0	10.0	0.0	0.0	18.2	0.0	75.0	0.0	0.0	75.0	45.2
Exiting Leg Total					1					7					2					9	19
Single-Unit Trucks	0	3	1	0	4	2	2	2	0	6	0	8	0	0	8	0	1	0	0	1	19
% Single-Unit	0.0	100.0	100.0	0.0	100.0	100.0	15.4	50.0	0.0	31.6	0.0	80.0	0.0	0.0	72.7	0.0	12.5	0.0	0.0	12.5	45.2
Exiting Leg Total					10					2					5					2	19
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0	0.0	10.5	0.0	10.0	0.0	0.0	9.1	0.0	12.5	0.0	0.0	12.5	9.5
Exiting Leg Total					1					1					0					2	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	4	2	0	6	1	1	0	0	2	0	1	0	0	1	9
4:15 PM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	1	0	0	1	1	3	0	0	4	0	4	0	0	4	0	1	0	0	1	10
4:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Volume	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
% Approach Total	0.0	66.7	33.3	0.0		14.3	64.3	21.4	0.0		16.7	83.3	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.500	0.250	0.000	0.375	0.500	0.563	0.375	0.000	0.583	0.250	0.313	0.000	0.000	0.375	0.000	0.625	0.000	0.000	0.625	0.700
Buses	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	66.7	33.3	0.0	50.0	100.0	0.0	0.0	0.0	16.7	0.0	60.0	0.0	0.0	60.0	39.3
Single-Unit Trucks	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
Single-Unit %	0.0	100.0	100.0	0.0	100.0	100.0	11.1	66.7	0.0	35.7	0.0	100.0	0.0	0.0	83.3	0.0	20.0	0.0	0.0	20.0	50.0
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	10.7
Buses	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
Single-Unit Trucks	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Entering Leg	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
Buses					0					4					1					6	11
Single-Unit Trucks					7					2					4					1	14
Articulated Trucks					0					1					0					2	3
Total Exiting Leg					7					7					5					9	28

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	0	1	0	0	1	6
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	1	0	4	0	1	0	0	1	0	3	0	0	3	8
Grand Total	0	0	0	0	0	0	9	2	0	11	1	1	0	0	2	0	6	0	0	6	19
Approach %	0.0	0.0	0.0	0.0		0.0	81.8	18.2	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	47.4	10.5	0.0	57.9	5.3	5.3	0.0	0.0	10.5	0.0	31.6	0.0	0.0	31.6	
Exiting Leg Total					1					7					2					9	19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	0	1	0	0	1	6
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
% Approach Total	0.0	0.0	0.0	0.0		0.0	85.7	14.3	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.438	0.250	0.000	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.750	0.458
Entering Leg	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
Exiting Leg					0					4					1					6	11
Total					0					11					2					9	22

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	1	1	0	2	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	4
4:30 PM	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	0	0	0	0	0	7
4:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Total	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	5
Grand Total	0	3	1	0	4	2	2	2	0	6	0	8	0	0	8	0	1	0	0	1	19
Approach %	0.0	75.0	25.0	0.0		33.3	33.3	33.3	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	15.8	5.3	0.0	21.1	10.5	10.5	10.5	0.0	31.6	0.0	42.1	0.0	0.0	42.1	0.0	5.3	0.0	0.0	5.3	
Exiting Leg Total					10					2					5					2	19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway from North					Broadway from East					Alewife Brook Parkway from South					Broadway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	1	1	0	2	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	4
4:30 PM	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	0	0	0	0	0	7
4:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
% Approach Total	0.0	66.7	33.3	0.0		40.0	20.0	40.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.500	0.250	0.000	0.375	0.500	0.250	0.500	0.000	0.625	0.000	0.313	0.000	0.000	0.313	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
Exiting Leg					7					2					4					1	14
Total					10					7					9					2	28

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	25.0	0.0	0.0	25.0	0.0	25.0	0.0	0.0	25.0	
Exiting Leg Total					1					1					0					2	4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.750
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Exiting Leg					0					1					0					2	3
Total					0					3					0					3	6

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	4	4
4:30 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3	4
Total	0	0	0	0	2	1	3	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	4	1	8	13
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0	0	0	0	0	1	0	1	0	0	0	0	1	4
5:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	3
5:30 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
5:45 PM	0	0	0	0	0	1	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	1	4	7
Total	0	0	0	0	1	3	4	1	3	0	0	0	0	4	1	0	0	0	0	0	1	0	2	0	0	5	2	9	18
Grand Total	0	0	0	0	3	4	7	1	5	0	0	0	0	6	1	0	0	0	0	0	1	0	5	0	0	9	3	17	31
Approach %	0.0	0.0	0.0	0.0	42.9	57.1		16.7	83.3	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	29.4	0.0	0.0	52.9	17.6		
Total %	0.0	0.0	0.0	0.0	9.7	12.9	22.6	3.2	16.1	0.0	0.0	0.0	0.0	19.4	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	16.1	0.0	0.0	29.0	9.7	54.8	
Exiting Leg Total							8							6							0							17	31

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0	0	0	0	0	1	0	1	0	0	0	0	1	4
5:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	3
5:30 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
5:45 PM	0	0	0	0	0	1	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	1	4	7
Total Volume	0	0	0	0	1	3	4	1	3	0	0	0	0	4	1	0	0	0	0	0	1	0	2	0	0	5	2	9	18
% Approach Total	0.0	0.0	0.0	0.0	25.0	75.0		25.0	75.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	22.2	0.0	0.0	55.6	22.2		
PHF	0.000	0.000	0.000	0.000	0.250	0.750	0.500	0.250	0.375	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.417	0.500	0.563	0.643
Entering Leg	0	0	0	0	1	3	4	1	3	0	0	0	0	4	1	0	0	0	0	0	1	0	2	0	0	5	2	9	18
Exiting Leg							5							3							0							10	18
Total							9							7							1							19	36

PDI File #: **207732 A**
Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
Location: **E: Broadway W: Broadway**
City, State: **Somerville, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	5	4	9	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	4	6	10	22
4:15 PM	0	0	0	0	9	5	14	0	0	0	0	0	1	1	0	0	0	0	1	2	3	0	0	0	0	2	1	3	21
4:30 PM	0	0	0	0	2	5	7	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	5	3	8	20
4:45 PM	0	0	0	0	5	1	6	0	0	0	0	0	1	1	0	0	0	0	3	2	5	0	0	0	0	0	0	0	12
Total	0	0	0	0	21	15	36	0	0	0	0	0	2	2	0	0	0	0	8	8	16	0	0	0	0	11	10	21	75
5:00 PM	0	0	0	0	14	3	17	0	0	0	0	1	0	1	0	0	0	0	1	3	4	0	0	0	0	1	3	4	26
5:15 PM	0	0	0	0	3	9	12	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	4	4	19
5:30 PM	0	0	0	0	4	5	9	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	5	0	5	15
5:45 PM	0	0	0	0	5	6	11	0	0	0	0	2	0	2	0	0	0	0	4	0	4	0	0	0	0	2	0	2	19
Total	0	0	0	0	26	23	49	0	0	0	0	3	1	4	0	0	0	0	7	4	11	0	0	0	0	8	7	15	79
Grand Total	0	0	0	0	47	38	85	0	0	0	0	3	3	6	0	0	0	0	15	12	27	0	0	0	0	19	17	36	154
Approach %	0	0	0	0	55.3	44.7		0	0	0	0	50	50		0	0	0	0	55.6	44.4		0	0	0	0	52.8	47.2		
Total %	0	0	0	0	30.5	24.7	55.2	0	0	0	0	1.95	1.95	3.9	0	0	0	0	9.74	7.79	17.5	0	0	0	0	12.3	11	23.4	
Exiting Leg Total							85							6							27							36	154

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Alewife Brook Parkway from North							Broadway from East							Alewife Brook Parkway from South							Broadway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:15 PM	0	0	0	0	9	5	14	0	0	0	0	0	1	1	0	0	0	0	1	2	3	0	0	0	0	2	1	3	21
4:30 PM	0	0	0	0	2	5	7	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	5	3	8	20
4:45 PM	0	0	0	0	5	1	6	0	0	0	0	0	1	1	0	0	0	0	3	2	5	0	0	0	0	0	0	0	12
5:00 PM	0	0	0	0	14	3	17	0	0	0	0	1	0	1	0	0	0	0	1	3	4	0	0	0	0	1	3	4	26
Total Volume	0	0	0	0	30	14	44	0	0	0	0	1	2	3	0	0	0	0	8	9	17	0	0	0	0	8	7	15	79
% Approach Total	0.0	0.0	0.0	0.0	68.2	31.8		0.0	0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	47.1	52.9		0.0	0.0	0.0	0.0	53.3	46.7		
PHF	0.000	0.000	0.000	0.000	0.536	0.700	0.647	0.000	0.000	0.000	0.000	0.250	0.500	0.750	0.000	0.000	0.000	0.000	0.667	0.750	0.850	0.000	0.000	0.000	0.000	0.400	0.583	0.469	0.760
Entering Leg	0	0	0	0	30	14	44	0	0	0	0	1	2	3	0	0	0	0	8	9	17	0	0	0	0	8	7	15	79
Exiting Leg							44							3							17							15	79
Total							88							6							34							30	158

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars and Heavy Vehicles (Combined)**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	8	10	0	18	5	33	0	38	37	3	0	40	96
7:15 AM	0	4	0	4	2	37	0	39	64	0	0	64	107
7:30 AM	0	1	0	1	5	37	0	42	68	1	0	69	112
7:45 AM	1	4	0	5	0	48	0	48	51	1	0	52	105
Total	9	19	0	28	12	155	0	167	220	5	0	225	420
8:00 AM	6	7	0	13	3	32	0	35	56	2	0	58	106
8:15 AM	3	1	0	4	0	42	0	42	50	1	0	51	97
8:30 AM	1	4	0	5	2	30	0	32	52	4	0	56	93
8:45 AM	1	1	0	2	2	45	0	47	62	3	0	65	114
Total	11	13	0	24	7	149	0	156	220	10	0	230	410
Grand Total	20	32	0	52	19	304	0	323	440	15	0	455	830
Approach %	38.5	61.5	0.0		5.9	94.1	0.0		96.7	3.3	0.0		
Total %	2.4	3.9	0.0	6.3	2.3	36.6	0.0	38.9	53.0	1.8	0.0	54.8	
Exiting Leg Total				34				472				324	830
Cars	19	30	0	49	18	279	0	297	419	15	0	434	780
% Cars	95.0	93.8	0.0	94.2	94.7	91.8	0.0	92.0	95.2	100.0	0.0	95.4	94.0
Exiting Leg Total				33				449				298	780
Heavy Vehicles	1	2	0	3	1	25	0	26	21	0	0	21	50
% Heavy Vehicles	5.0	6.3	0.0	5.8	5.3	8.2	0.0	8.0	4.8	0.0	0.0	4.6	6.0
Exiting Leg Total				1				23				26	50

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	0	4	0	4	2	37	0	39	64	0	0	64	107
7:30 AM	0	1	0	1	5	37	0	42	68	1	0	69	112
7:45 AM	1	4	0	5	0	48	0	48	51	1	0	52	105
8:00 AM	6	7	0	13	3	32	0	35	56	2	0	58	106
Total Volume	7	16	0	23	10	154	0	164	239	4	0	243	430
% Approach Total	30.4	69.6	0.0		6.1	93.9	0.0		98.4	1.6	0.0		
PHF	0.292	0.571	0.000	0.442	0.500	0.802	0.000	0.854	0.879	0.500	0.000	0.880	0.960
Cars	7	15	0	22	10	144	0	154	230	4	0	234	410
Cars %	100.0	93.8	0.0	95.7	100.0	93.5	0.0	93.9	96.2	100.0	0.0	96.3	95.3
Heavy Vehicles	0	1	0	1	0	10	0	10	9	0	0	9	20
Heavy Vehicles %	0.0	6.3	0.0	4.3	0.0	6.5	0.0	6.1	3.8	0.0	0.0	3.7	4.7
Cars Enter Leg	7	15	0	22	10	144	0	154	230	4	0	234	410
Heavy Enter Leg	0	1	0	1	0	10	0	10	9	0	0	9	20
Total Entering Leg	7	16	0	23	10	154	0	164	239	4	0	243	430
Cars Exiting Leg				14				245				151	410
Heavy Exiting Leg				0				10				10	20
Total Exiting Leg				14				255				161	430

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	7	10	0	17	4	30	0	34	34	3	0	37	88
7:15 AM	0	3	0	3	2	34	0	36	60	0	0	60	99
7:30 AM	0	1	0	1	5	35	0	40	66	1	0	67	108
7:45 AM	1	4	0	5	0	44	0	44	49	1	0	50	99
Total	8	18	0	26	11	143	0	154	209	5	0	214	394
8:00 AM	6	7	0	13	3	31	0	34	55	2	0	57	104
8:15 AM	3	1	0	4	0	37	0	37	48	1	0	49	90
8:30 AM	1	3	0	4	2	25	0	27	47	4	0	51	82
8:45 AM	1	1	0	2	2	43	0	45	60	3	0	63	110
Total	11	12	0	23	7	136	0	143	210	10	0	220	386
Grand Total	19	30	0	49	18	279	0	297	419	15	0	434	780
Approach %	38.8	61.2	0.0		6.1	93.9	0.0		96.5	3.5	0.0		
Total %	2.4	3.8	0.0	6.3	2.3	35.8	0.0	38.1	53.7	1.9	0.0	55.6	
Exiting Leg Total				33				449				298	780

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	0	3	0	3	2	34	0	36	60	0	0	60	99
7:30 AM	0	1	0	1	5	35	0	40	66	1	0	67	108
7:45 AM	1	4	0	5	0	44	0	44	49	1	0	50	99
8:00 AM	6	7	0	13	3	31	0	34	55	2	0	57	104
Total Volume	7	15	0	22	10	144	0	154	230	4	0	234	410
% Approach Total	31.8	68.2	0.0		6.5	93.5	0.0		98.3	1.7	0.0		
PHF	0.292	0.536	0.000	0.423	0.500	0.818	0.000	0.875	0.871	0.500	0.000	0.873	0.949
Entering Leg	7	15	0	22	10	144	0	154	230	4	0	234	410
Exiting Leg				14				245				151	410
Total				36				399				385	820

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	1	1	3	0	4	3	0	0	3	8
7:15 AM	0	1	0	1	0	3	0	3	4	0	0	4	8
7:30 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
7:45 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total	1	1	0	2	1	12	0	13	11	0	0	11	26
8:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
8:15 AM	0	0	0	0	0	5	0	5	2	0	0	2	7
8:30 AM	0	1	0	1	0	5	0	5	5	0	0	5	11
8:45 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
Total	0	1	0	1	0	13	0	13	10	0	0	10	24
Grand Total	1	2	0	3	1	25	0	26	21	0	0	21	50
Approach %	33.3	66.7	0.0		3.8	96.2	0.0		100.0	0.0	0.0		
Total %	2.0	4.0	0.0	6.0	2.0	50.0	0.0	52.0	42.0	0.0	0.0	42.0	
Exiting Leg Total				1				23				26	50
Buses	0	0	0	0	0	10	0	10	12	0	0	12	22
% Buses	0.0	0.0	0.0	0.0	0.0	40.0	0.0	38.5	57.1	0.0	0.0	57.1	44.0
Exiting Leg Total				0				12				10	22
Single-Unit Trucks	0	2	0	2	1	14	0	15	6	0	0	6	23
% Single-Unit	0.0	100.0	0.0	66.7	100.0	56.0	0.0	57.7	28.6	0.0	0.0	28.6	46.0
Exiting Leg Total				1				8				14	23
Articulated Trucks	1	0	0	1	0	1	0	1	3	0	0	3	5
% Articulated	100.0	0.0	0.0	33.3	0.0	4.0	0.0	3.8	14.3	0.0	0.0	14.3	10.0
Exiting Leg Total				0				3				2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	1	1	3	0	4	3	0	0	3	8
7:15 AM	0	1	0	1	0	3	0	3	4	0	0	4	8
7:30 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
7:45 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total Volume	1	1	0	2	1	12	0	13	11	0	0	11	26
% Approach Total	50.0	50.0	0.0		7.7	92.3	0.0		100.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.500	0.250	0.750	0.000	0.813	0.688	0.000	0.000	0.688	0.813
Buses	0	0	0	0	0	6	0	6	4	0	0	4	10
Buses %	0.0	0.0	0.0	0.0	0.0	50.0	0.0	46.2	36.4	0.0	0.0	36.4	38.5
Single-Unit Trucks	0	1	0	1	1	6	0	7	4	0	0	4	12
Single-Unit %	0.0	100.0	0.0	50.0	100.0	50.0	0.0	53.8	36.4	0.0	0.0	36.4	46.2
Articulated Trucks	1	0	0	1	0	0	0	0	3	0	0	3	4
Articulated %	100.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0	27.3	15.4
Buses	0	0	0	0	0	6	0	6	4	0	0	4	10
Single-Unit Trucks	0	1	0	1	1	6	0	7	4	0	0	4	12
Articulated Trucks	1	0	0	1	0	0	0	0	3	0	0	3	4
Total Entering Leg	1	1	0	2	1	12	0	13	11	0	0	11	26
Buses				0				4				6	10
Single-Unit Trucks				1				5				6	12
Articulated Trucks				0				3				1	4
Total Exiting Leg				1				12				13	26

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	3	0	3	1	0	0	1	4
7:15 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
7:30 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	6	0	6	4	0	0	4	10
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
8:30 AM	0	0	0	0	0	1	0	1	4	0	0	4	5
8:45 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
Total	0	0	0	0	0	4	0	4	8	0	0	8	12
Grand Total	0	0	0	0	0	10	0	10	12	0	0	12	22
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	45.5	0.0	45.5	54.5	0.0	0.0	54.5	
Exiting Leg Total				0				12				10	22

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
8:30 AM	0	0	0	0	0	1	0	1	4	0	0	4	5
8:45 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
Total Volume	0	0	0	0	0	4	0	4	8	0	0	8	12
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	1.000	0.000	1.000	0.500	0.000	0.000	0.500	0.600
Entering Leg	0	0	0	0	0	4	0	4	8	0	0	8	12
Exiting Leg				0				8				4	12
Total				0				12				12	24

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	1	0	0	1	2	0	0	2	3
7:15 AM	0	1	0	1	0	2	0	2	1	0	0	1	4
7:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	4
Total	0	1	0	1	1	6	0	7	4	0	0	4	12
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
8:30 AM	0	1	0	1	0	4	0	4	1	0	0	1	6
8:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	8	0	8	2	0	0	2	11
Grand Total	0	2	0	2	1	14	0	15	6	0	0	6	23
Approach %	0.0	100.0	0.0		6.7	93.3	0.0		100.0	0.0	0.0		
Total %	0.0	8.7	0.0	8.7	4.3	60.9	0.0	65.2	26.1	0.0	0.0	26.1	
Exiting Leg Total				1				8				14	23

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	4
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
8:30 AM	0	1	0	1	0	4	0	4	1	0	0	1	6
Total Volume	0	1	0	1	0	10	0	10	3	0	0	3	14
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.625	0.000	0.625	0.750	0.000	0.000	0.750	0.583
Entering Leg	0	1	0	1	0	10	0	10	3	0	0	3	14
Exiting Leg				0				4				10	14
Total				1				14				13	28

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Articulated Trucks**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	3	0	0	3	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	1	0	0	1	0	1	0	1	3	0	0	3	5
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	20.0	0.0	0.0	20.0	0.0	20.0	0.0	20.0	60.0	0.0	0.0	60.0	
Exiting Leg Total				0				3				2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	0	0	0	3	0	0	3	4
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.500
Entering Leg	1	0	0	1	0	0	0	0	3	0	0	3	4
Exiting Leg				0				3				1	4
Total				1				3				4	8

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Sunnyside Avenue from North						Broadway from East						Broadway from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:15 AM	1	0	0	0	1	2	0	1	0	1	0	2	0	1	0	0	0	1	5
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	1	0	0	0	1	2	0	1	0	0	0	1	0	0	0	0	0	0	3
Total	2	0	0	0	2	4	0	3	0	1	0	4	1	1	0	0	0	2	10
8:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	2	3
8:15 AM	0	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	1	1	2	0	2	0	0	0	2	5	0	0	0	0	5	9
Grand Total	2	0	0	1	3	6	0	5	0	1	0	6	6	1	0	0	0	7	19
Approach %	33.3	0.0	0.0	16.7	50.0		0.0	83.3	0.0	16.7	0.0		85.7	14.3	0.0	0.0	0.0		
Total %	10.5	0.0	0.0	5.3	15.8	31.6	0.0	26.3	0.0	5.3	0.0	31.6	31.6	5.3	0.0	0.0	0.0	36.8	
Exiting Leg Total						5						7						7	19

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue from North						Broadway from East						Broadway from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	1	0	0	0	1	2	0	1	0	1	0	2	0	1	0	0	0	1	5
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
7:45 AM	1	0	0	0	1	2	0	1	0	0	0	1	0	0	0	0	0	0	3
8:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	2	3
Total Volume	2	0	0	1	2	5	0	3	0	1	0	4	2	1	0	0	0	3	12
% Approach Total	40.0	0.0	0.0	20.0	40.0		0.0	75.0	0.0	25.0	0.0		66.7	33.3	0.0	0.0	0.0		
PHF	0.500	0.000	0.000	0.250	0.500	0.625	0.000	0.750	0.000	0.250	0.000	0.500	0.250	0.250	0.000	0.000	0.000	0.375	0.600
Entering Leg	2	0	0	1	2	5	0	3	0	1	0	4	2	1	0	0	0	3	12
Exiting Leg						4						3						5	12
Total						9						7						8	24

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Sunnyside Avenue						Broadway						Broadway						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	4
7:30 AM	0	0	0	3	1	4	0	0	0	1	0	1	0	0	0	0	0	0	5
7:45 AM	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	1	0	1	7
Total	0	0	0	9	7	16	0	0	0	1	0	1	0	0	0	1	0	1	18
8:00 AM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	1	1	6
8:45 AM	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	8	10	18	0	0	0	0	0	0	0	0	0	0	1	1	19
Grand Total	0	0	0	17	17	34	0	0	0	1	0	1	0	0	0	1	1	2	37
Approach %	0	0	0	50	50		0	0	0	100	0		0	0	0	50	50		
Total %	0	0	0	45.946	45.946	91.892	0	0	0	2.7027	0	2.7027	0	0	0	2.7027	2.7027	5.4054	
Exiting Leg Total						34						1						2	37

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue						Broadway						Broadway						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	4
7:30 AM	0	0	0	3	1	4	0	0	0	1	0	1	0	0	0	0	0	0	5
7:45 AM	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	1	0	1	7
8:00 AM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	0	0	0	11	8	19	0	0	0	1	0	1	0	0	0	1	0	1	21
% Approach Total	0.0	0.0	0.0	57.9	42.1		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.917	0.500	0.792	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.750
Entering Leg	0	0	0	11	8	19	0	0	0	1	0	1	0	0	0	1	0	1	21
Exiting Leg						19						1						1	21
Total						38						2						2	42

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars and Heavy Vehicles (Combined)**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	2	0	2	3	49	0	52	67	1	0	68	122
4:15 PM	0	6	0	6	2	52	0	54	80	0	0	80	140
4:30 PM	2	2	0	4	2	45	0	47	88	0	0	88	139
4:45 PM	1	4	0	5	4	61	0	65	72	3	0	75	145
Total	3	14	0	17	11	207	0	218	307	4	0	311	546
5:00 PM	4	2	0	6	3	47	0	50	77	4	0	81	137
5:15 PM	4	2	0	6	5	36	0	41	81	8	0	89	136
5:30 PM	0	3	0	3	1	60	0	61	79	0	0	79	143
5:45 PM	2	3	0	5	3	59	0	62	74	4	0	78	145
Total	10	10	0	20	12	202	0	214	311	16	0	327	561
Grand Total	13	24	0	37	23	409	0	432	618	20	0	638	1107
Approach %	35.1	64.9	0.0		5.3	94.7	0.0		96.9	3.1	0.0		
Total %	1.2	2.2	0.0	3.3	2.1	36.9	0.0	39.0	55.8	1.8	0.0	57.6	
Exiting Leg Total				43				642				422	1107
Cars	12	24	0	36	21	400	0	421	610	19	0	629	1086
% Cars	92.3	100.0	0.0	97.3	91.3	97.8	0.0	97.5	98.7	95.0	0.0	98.6	98.1
Exiting Leg Total				40				634				412	1086
Heavy Vehicles	1	0	0	1	2	9	0	11	8	1	0	9	21
% Heavy Vehicles	7.7	0.0	0.0	2.7	8.7	2.2	0.0	2.5	1.3	5.0	0.0	1.4	1.9
Exiting Leg Total				3				8				10	21

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:15 PM	0	6	0	6	2	52	0	54	80	0	0	80	140
4:30 PM	2	2	0	4	2	45	0	47	88	0	0	88	139
4:45 PM	1	4	0	5	4	61	0	65	72	3	0	75	145
5:00 PM	4	2	0	6	3	47	0	50	77	4	0	81	137
Total Volume	7	14	0	21	11	205	0	216	317	7	0	324	561
% Approach Total	33.3	66.7	0.0		5.1	94.9	0.0		97.8	2.2	0.0		
PHF	0.438	0.583	0.000	0.875	0.688	0.840	0.000	0.831	0.901	0.438	0.000	0.920	0.967
Cars	6	14	0	20	10	202	0	212	312	6	0	318	550
Cars %	85.7	100.0	0.0	95.2	90.9	98.5	0.0	98.1	98.4	85.7	0.0	98.1	98.0
Heavy Vehicles	1	0	0	1	1	3	0	4	5	1	0	6	11
Heavy Vehicles %	14.3	0.0	0.0	4.8	9.1	1.5	0.0	1.9	1.6	14.3	0.0	1.9	2.0
Cars Enter Leg	6	14	0	20	10	202	0	212	312	6	0	318	550
Heavy Enter Leg	1	0	0	1	1	3	0	4	5	1	0	6	11
Total Entering Leg	7	14	0	21	11	205	0	216	317	7	0	324	561
Cars Exiting Leg				16				326				208	550
Heavy Exiting Leg				2				5				4	11
Total Exiting Leg				18				331				212	561

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	2	0	2	2	46	0	48	66	1	0	67	117
4:15 PM	0	6	0	6	2	52	0	54	78	0	0	78	138
4:30 PM	1	2	0	3	1	44	0	45	87	0	0	87	135
4:45 PM	1	4	0	5	4	60	0	64	71	2	0	73	142
Total	2	14	0	16	9	202	0	211	302	3	0	305	532
5:00 PM	4	2	0	6	3	46	0	49	76	4	0	80	135
5:15 PM	4	2	0	6	5	36	0	41	80	8	0	88	135
5:30 PM	0	3	0	3	1	58	0	59	78	0	0	78	140
5:45 PM	2	3	0	5	3	58	0	61	74	4	0	78	144
Total	10	10	0	20	12	198	0	210	308	16	0	324	554
Grand Total	12	24	0	36	21	400	0	421	610	19	0	629	1086
Approach %	33.3	66.7	0.0		5.0	95.0	0.0		97.0	3.0	0.0		
Total %	1.1	2.2	0.0	3.3	1.9	36.8	0.0	38.8	56.2	1.7	0.0	57.9	
Exiting Leg Total				40				634				412	1086

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
5:00 PM	4	2	0	6	3	46	0	49	76	4	0	80	135
5:15 PM	4	2	0	6	5	36	0	41	80	8	0	88	135
5:30 PM	0	3	0	3	1	58	0	59	78	0	0	78	140
5:45 PM	2	3	0	5	3	58	0	61	74	4	0	78	144
Total Volume	10	10	0	20	12	198	0	210	308	16	0	324	554
% Approach Total	50.0	50.0	0.0		5.7	94.3	0.0		95.1	4.9	0.0		
PHF	0.625	0.833	0.000	0.833	0.600	0.853	0.000	0.861	0.963	0.500	0.000	0.920	0.962
Entering Leg	10	10	0	20	12	198	0	210	308	16	0	324	554
Exiting Leg				28				318				208	554
Total				48				528				532	1108

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	3	0	4	1	0	0	1	5
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:30 PM	1	0	0	1	1	1	0	2	1	0	0	1	4
4:45 PM	0	0	0	0	0	1	0	1	1	1	0	2	3
Total	1	0	0	1	2	5	0	7	5	1	0	6	14
5:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	4	0	4	3	0	0	3	7
Grand Total	1	0	0	1	2	9	0	11	8	1	0	9	21
Approach %	100.0	0.0	0.0		18.2	81.8	0.0		88.9	11.1	0.0		
Total %	4.8	0.0	0.0	4.8	9.5	42.9	0.0	52.4	38.1	4.8	0.0	42.9	
Exiting Leg Total				3				8				10	21
Buses	0	0	0	0	0	8	0	8	6	0	0	6	14
% Buses	0.0	0.0	0.0	0.0	0.0	88.9	0.0	72.7	75.0	0.0	0.0	66.7	66.7
Exiting Leg Total				0				6				8	14
Single-Unit Trucks	1	0	0	1	1	1	0	2	1	1	0	2	5
% Single-Unit	100.0	0.0	0.0	100.0	50.0	11.1	0.0	18.2	12.5	100.0	0.0	22.2	23.8
Exiting Leg Total				2				1				2	5
Articulated Trucks	0	0	0	0	1	0	0	1	1	0	0	1	2
% Articulated	0.0	0.0	0.0	0.0	50.0	0.0	0.0	9.1	12.5	0.0	0.0	11.1	9.5
Exiting Leg Total				1				1				0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	3	0	4	1	0	0	1	5
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:30 PM	1	0	0	1	1	1	0	2	1	0	0	1	4
4:45 PM	0	0	0	0	0	1	0	1	1	1	0	2	3
Total Volume	1	0	0	1	2	5	0	7	5	1	0	6	14
% Approach Total	100.0	0.0	0.0		28.6	71.4	0.0		83.3	16.7	0.0		
PHF	0.250	0.000	0.000	0.250	0.500	0.417	0.000	0.438	0.625	0.250	0.000	0.750	0.700
Buses	0	0	0	0	0	5	0	5	3	0	0	3	8
Buses %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	71.4	60.0	0.0	0.0	50.0	57.1
Single-Unit Trucks	1	0	0	1	1	0	0	1	1	1	0	2	4
Single-Unit %	100.0	0.0	0.0	100.0	50.0	0.0	0.0	14.3	20.0	100.0	0.0	33.3	28.6
Articulated Trucks	0	0	0	0	1	0	0	1	1	0	0	1	2
Articulated %	0.0	0.0	0.0	0.0	50.0	0.0	0.0	14.3	20.0	0.0	0.0	16.7	14.3
Buses	0	0	0	0	0	5	0	5	3	0	0	3	8
Single-Unit Trucks	1	0	0	1	1	0	0	1	1	1	0	2	4
Articulated Trucks	0	0	0	0	1	0	0	1	1	0	0	1	2
Total Entering Leg	1	0	0	1	2	5	0	7	5	1	0	6	14
Buses				0				3				5	8
Single-Unit Trucks				2				1				1	4
Articulated Trucks				1				1				0	2
Total Exiting Leg				3				5				6	14

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Buses**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	0	3	1	0	0	1	4
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	5	0	5	3	0	0	3	8
5:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	3	0	3	3	0	0	3	6
Grand Total	0	0	0	0	0	8	0	8	6	0	0	6	14
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	57.1	0.0	57.1	42.9	0.0	0.0	42.9	
Exiting Leg Total				0				6				8	14

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	3	0	3	1	0	0	1	4
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	5	0	5	3	0	0	3	8
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.417	0.750	0.000	0.000	0.750	0.500
Entering Leg	0	0	0	0	0	5	0	5	3	0	0	3	8
Exiting Leg				0				3				5	8
Total				0				8				8	16

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Single-Unit Trucks**

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	1	0	0	1	1	0	0	1	1	1	0	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	1	0	0	1	1	1	0	2	1	1	0	2	5
Approach %	100.0	0.0	0.0		50.0	50.0	0.0		50.0	50.0	0.0		
Total %	20.0	0.0	0.0	20.0	20.0	20.0	0.0	40.0	20.0	20.0	0.0	40.0	
Exiting Leg Total				2				1				2	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	1	0	0	1	1	0	0	1	1	1	0	2	4
% Approach Total	100.0	0.0	0.0		100.0	0.0	0.0		50.0	50.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.250	0.250	0.000	0.500	1.000
Entering Leg	1	0	0	1	1	0	0	1	1	1	0	2	4
Exiting Leg				2				1				1	4
Total				3				2				3	8

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Articulated Trucks

	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	1	0	0	1	1	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	1	1	0	0	1	2
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	50.0	0.0	0.0	50.0	
Exiting Leg Total				1				1				0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue from North				Broadway from East				Broadway from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	1	0	0	1	1	0	0	1	2
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	1	0	0	1	1	0	0	1	2
Exiting Leg				1				1				0	2
Total				1				2				1	4

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	Sunnyside Avenue from North						Broadway from East						Broadway from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	2	3
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	2
4:30 PM	0	0	0	1	1	2	0	1	0	0	0	1	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
Total	0	0	0	1	1	2	0	3	0	0	0	3	5	0	0	0	0	5	10
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	1	3
5:15 PM	0	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	3	0	1	0	4	2	0	0	0	0	2	7
Grand Total	0	0	0	1	2	3	0	6	0	1	0	7	7	0	0	0	0	7	17
Approach %	0.0	0.0	0.0	33.3	66.7		0.0	85.7	0.0	14.3	0.0		100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	5.9	11.8	17.6	0.0	35.3	0.0	5.9	0.0	41.2	41.2	0.0	0.0	0.0	0.0	41.2	
Exiting Leg Total						3						8						6	17

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Sunnyside Avenue from North						Broadway from East						Broadway from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	1	1	2	0	1	0	0	0	1	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	1	3
5:15 PM	0	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	1	3
Total Volume	0	0	0	1	2	3	0	3	0	1	0	4	4	0	0	0	0	4	11
% Approach Total	0.0	0.0	0.0	33.3	66.7		0.0	75.0	0.0	25.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.500	0.375	0.000	0.375	0.000	0.250	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.500	0.917
Entering Leg	0	0	0	1	2	3	0	3	0	1	0	4	4	0	0	0	0	4	11
Exiting Leg						3						5						3	11
Total						6						9						7	22

PDI File #: **207732 B**
Location: **N: Sunnyside Avenue**
Location: **E: Broadway W: Broadway**
City, State: **Arlington, MA**
Client: **Nitsh/ B. Zimolka**
Site Code: **TBA**
Count Date: **Thursday, December 3, 2020**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

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Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

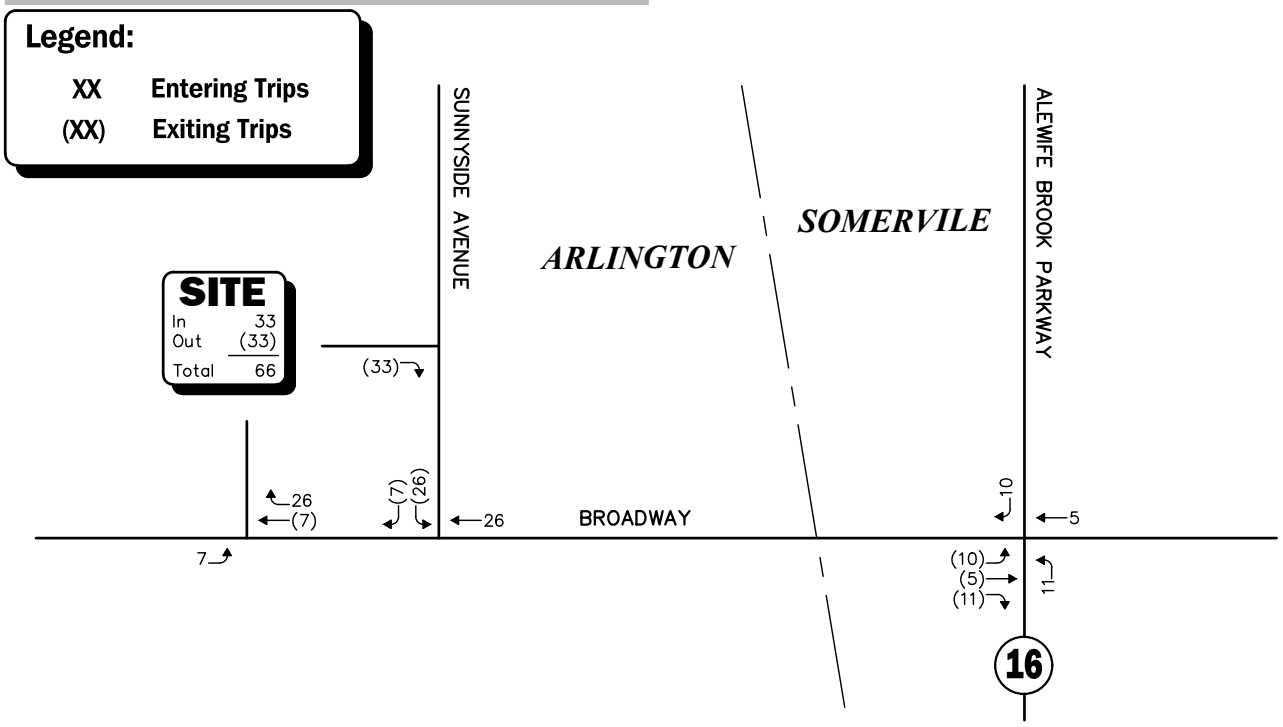
	Sunnyside Avenue from North						Broadway from East						Broadway from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	4	3	7	0	0	0	0	0	0	0	0	0	0	0	0	7
4:15 PM	0	0	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0	5
4:30 PM	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	13	7	20	0	0	0	0	0	0	0	0	0	0	0	0	20
5:00 PM	0	0	0	3	1	4	0	0	0	0	1	1	0	0	0	0	0	0	5
5:15 PM	0	0	0	6	5	11	0	0	0	0	0	0	0	0	0	0	0	0	11
5:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	1	6	7	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	0	0	0	10	13	23	0	0	0	0	1	1	0	0	0	0	0	0	24
Grand Total	0	0	0	23	20	43	0	0	0	0	1	1	0	0	0	0	0	0	44
Approach %	0	0	0	53.488	46.512		0	0	0	0	100		0	0	0	0	0		
Total %	0	0	0	52.273	45.455	97.727	0	0	0	0	2.2727	2.2727	0	0	0	0	0	0	
Exiting Leg Total						43						1						0	44

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

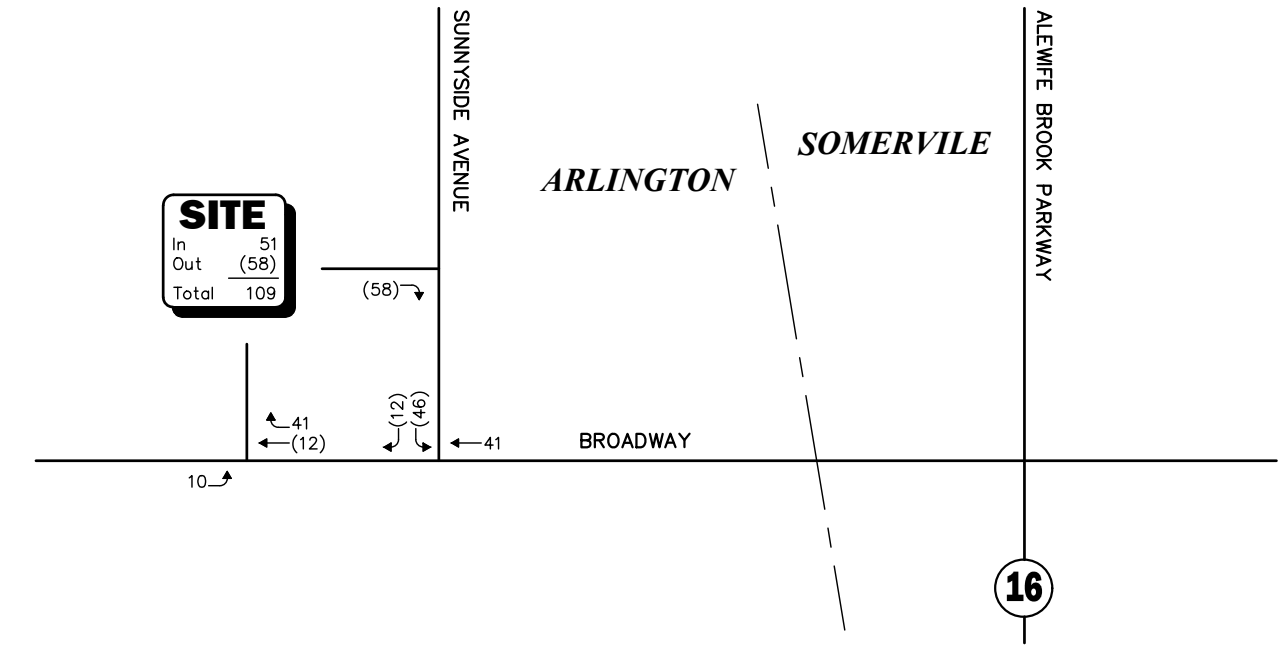
4:30 PM	Sunnyside Avenue from North						Broadway from East						Broadway from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:30 PM	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	3	1	4	0	0	0	0	1	1	0	0	0	0	0	0	5
5:15 PM	0	0	0	6	5	11	0	0	0	0	0	0	0	0	0	0	0	0	11
Total Volume	0	0	0	14	9	23	0	0	0	0	1	1	0	0	0	0	0	0	24
% Approach Total	0.0	0.0	0.0	60.9	39.1		0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.583	0.450	0.523	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.545
Entering Leg	0	0	0	14	9	23	0	0	0	0	1	1	0	0	0	0	0	0	24
Exiting Leg						23						1						0	24
Total						46						2						0	48

Appendix B: Additional Developments' Trip Generation

WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)



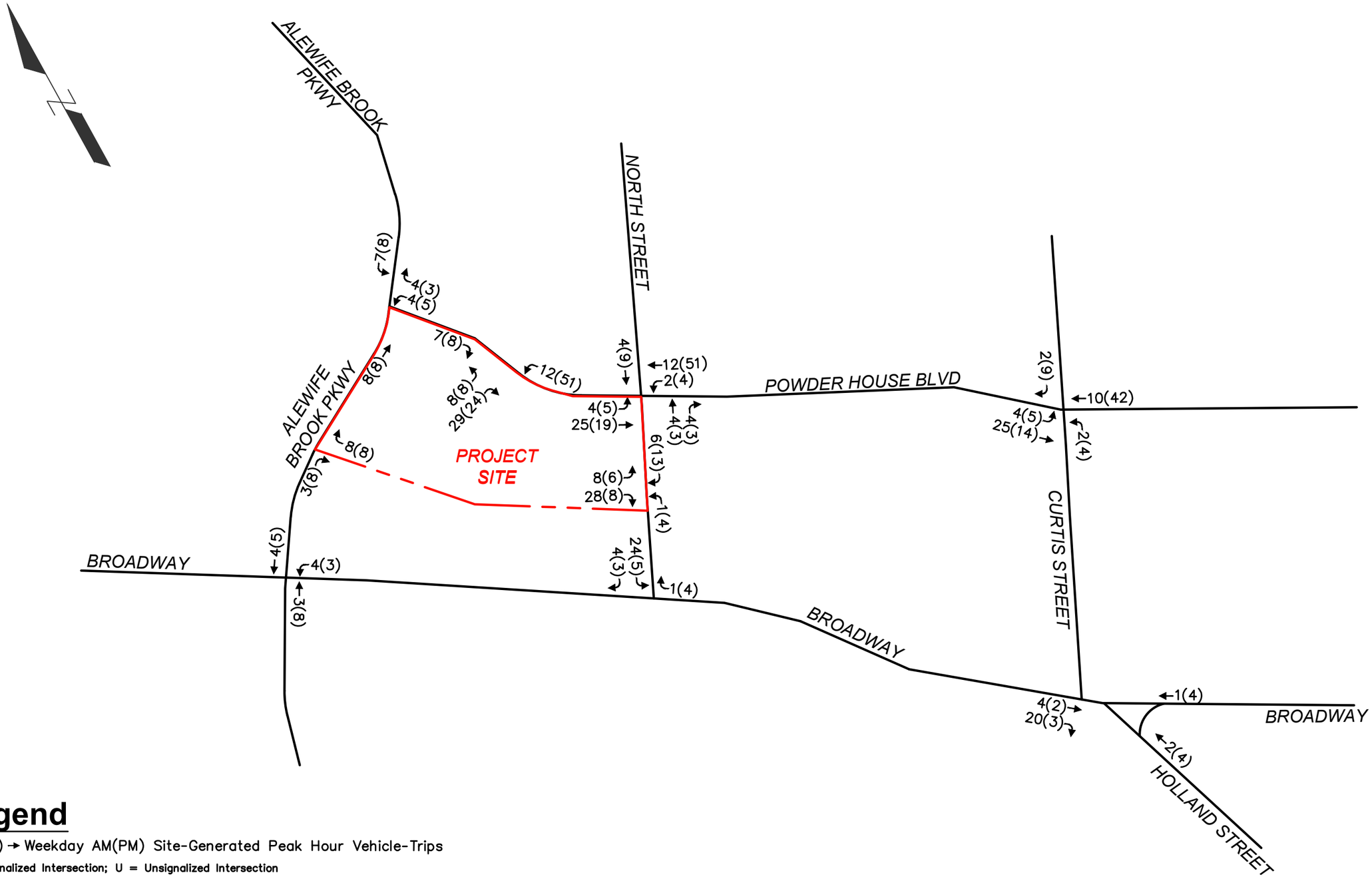
Not To Scale

Figure 6

Project Generated
Peak Hour Traffic Volumes

Vanasse & Associates inc

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Legend

XX(YY) → Weekday AM(PM) Site-Generated Peak Hour Vehicle-Trips

S = Signalized Intersection; U = Unsignalized Intersection

P:\2016 PROJECTS\2016-155 CLARENDON HILLS 34 NORTH ST SOM_TRAFFIC\CAD\2016-115 TRAFFIC FIGURES_SEPTEMBER 2019 REVISION.DWG

Design Consultants Inc.
Somerville - South Shore
www.dci-ma.com

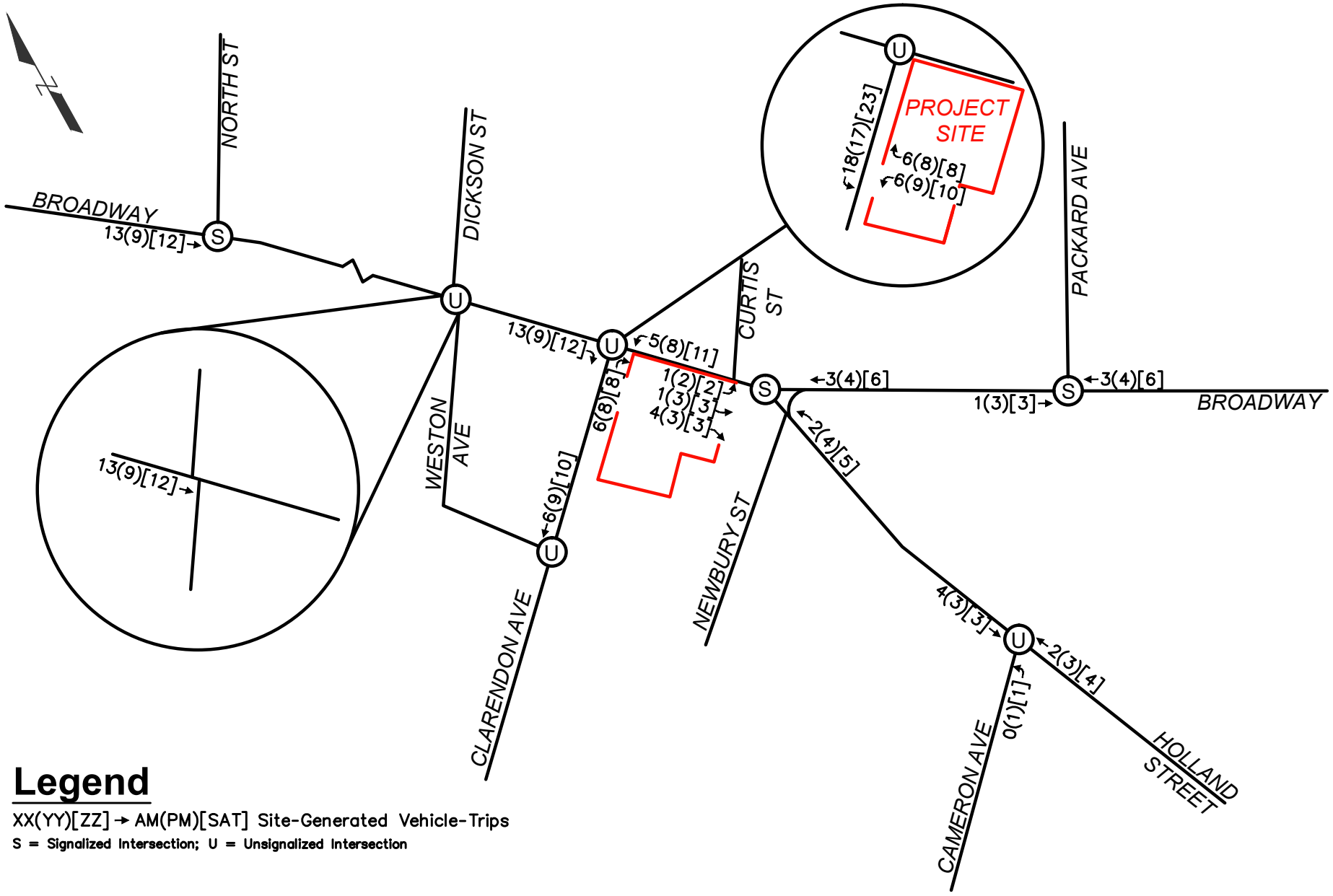
DEVELOPER:
REDGATE REAL ESTATE
265 FRANKLIN STREET, 6TH FLOOR
BOSTON, MA 02110
PROJECT TEAM

SITE NAME
34 NORTH STREET
SOMERVILLE, MA
SITE NAME/ADDRESS

Site-Generated Vehicle-Trips
SHEET NAME

Figure D2.2
SHEET #

DR BY: LV/SGS
CHK BY: SGS
PROJ NO.: 2016-155
DATE: SEPTEMBER 2019
SCALE: N.T.S.



P:\2017 PROJECTS\2017-135 1154 BROADWAY SOMERVILLE_TRAFFIC\CAD\17-135 TRAFFIC FIGURES 3.DWG

Design Consultants Inc.
Somerville - Quincy - Newburyport
www.dci-ma.com

1154 BROADWAY
SOMERVILLE, MA

Site-Generated Trips

PROJECT NO.: 2017-135

DATE: APRIL 2018

SCALE: N.T.S.

Figure B6

Appendix C: Detailed Trip Generation

Trip Generation from ITE Method by LUC

Period	Direction	Future Trips					
		LUC 220 Multifamily Housing (Low-Rise) (5 Units) (vehicle)			LUC 710 General Office Bldg. (8,000 Sq. ft.) (vehicle)		
		Total Trips	Split	Trips	Total Trips	Split	Trips
AM	Enter	2	0%	0	9	89%	8
	Exit		100%	2		11%	1
PM	Enter	3	67%	2	9	11%	1
	Exit		33%	1		89%	8

Notes:
LUC = Land Use Code
Average rates were used to estimate trip generation.
Peak-hour trip generation based on peak hours of adjacent street traffic.

Appendix D: Capacity Analysis

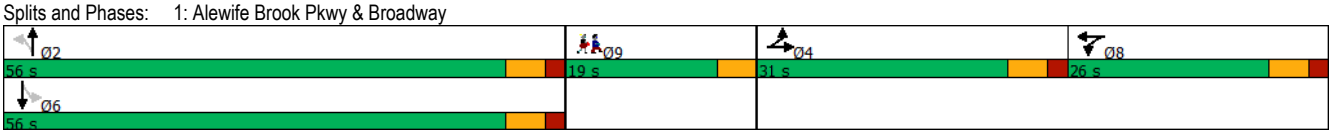
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	163	391	62	188	240	16	29	437	65	45	852	136	
Future Volume (vph)	163	391	62	188	240	16	29	437	65	45	852	136	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		0.99			1.00			1.00			1.00		
Frt		0.985			0.995			0.982			0.980		
Flt Protected		0.987			0.979			0.997			0.998		
Satd. Flow (prot)	0	3346	0	0	3343	0	0	3269	0	0	3269	0	
Flt Permitted		0.987			0.979			0.672			0.847		
Satd. Flow (perm)	0	3346	0	0	3343	0	0	2204	0	0	2775	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			2			13					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			32			4			1			2	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	175	420	67	204	261	17	33	491	73	49	926	148	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	662	0	0	482	0	0	597	0	0	1123	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.03			0.95			0.71			1.07		
Control Delay		95.8			84.2			39.6			87.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		95.8			84.2			39.6			87.4		
LOS		F			F			D			F		
Approach Delay		95.8			84.2			39.6			87.4		
Approach LOS		F			F			D			F		
Queue Length 50th (ft)		~317			217			222			~559		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#443			#327			290			#696		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		640			508			842			1051		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.03			0.95			0.71			1.07		

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 132			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 78.9		Intersection LOS: E	
Intersection Capacity Utilization 94.3%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Pkwy & Broadway



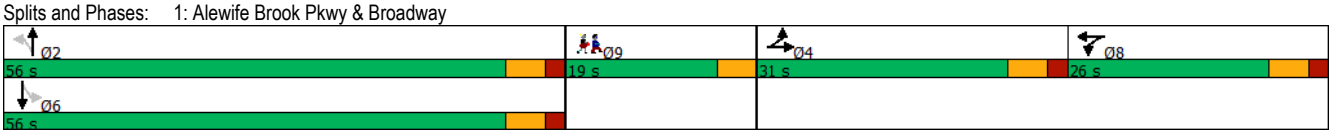
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	195	305	46	136	280	22	33	783	165	21	848	134	
Future Volume (vph)	195	305	46	136	280	22	33	783	165	21	848	134	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00					
Frt		0.987			0.992			0.975			0.980		
Flt Protected		0.982			0.985			0.998			0.999		
Satd. Flow (prot)	0	3359	0	0	3385	0	0	3255	0	0	3282	0	
Flt Permitted		0.982			0.985			0.703			0.804		
Satd. Flow (perm)	0	3359	0	0	3385	0	0	2293	0	0	2641	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		6			3			21					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			3			3			1				
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	227	355	53	142	292	23	34	816	172	23	922	146	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	635	0	0	457	0	0	1022	0	0	1091	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			19.5			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		0.99			0.91			1.16			1.09		
Control Delay		84.9			77.4			119.5			93.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		84.9			77.4			119.5			93.9		
LOS		F			E			F			F		
Approach Delay		84.9			77.4			119.5			93.9		
Approach LOS		F			E			F			F		
Queue Length 50th (ft)		286			203			~540			~553		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#384			#298			#677			#690		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		643			517			884			1004		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.99			0.88			1.16			1.09		

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 131.5			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 97.9		Intersection LOS: F	
Intersection Capacity Utilization 94.4%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Pkwy & Broadway



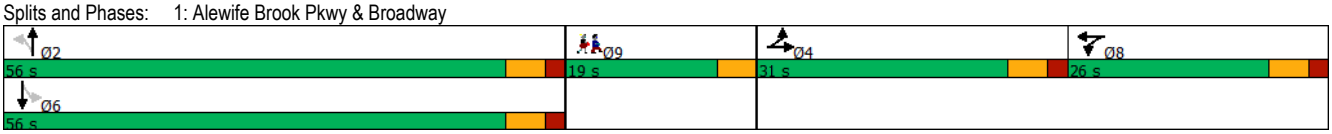
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	187	459	71	220	275	19	33	505	77	53	983	156	
Future Volume (vph)	187	459	71	220	275	19	33	505	77	53	983	156	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00			1.00		
Frt		0.985			0.994			0.981			0.980		
Flt Protected		0.987			0.979			0.997			0.998		
Satd. Flow (prot)	0	3346	0	0	3340	0	0	3266	0	0	3269	0	
Flt Permitted		0.987			0.979			0.593			0.780		
Satd. Flow (perm)	0	3346	0	0	3340	0	0	1942	0	0	2555	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			2			14					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			32			4			1			2	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	201	494	76	239	299	21	37	567	87	58	1068	170	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	771	0	0	559	0	0	691	0	0	1296	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.20			1.10			0.93			1.34		
Control Delay		151.2			121.7			58.5			194.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		151.2			121.7			58.5			194.3		
LOS		F			F			E			F		
Approach Delay		151.2			121.7			58.5			194.3		
Approach LOS		F			F			E			F		
Queue Length 50th (ft)		~421			~285			291			~760		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#552			#406			#412			#899		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		640			507			744			967		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			1.10			0.93			1.34		

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 132			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 143.8		Intersection LOS: F	
Intersection Capacity Utilization 106.0%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Pkwy & Broadway



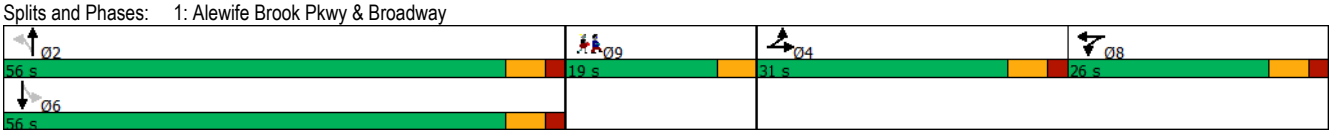
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations		↑↑			↑↑			↑↑			↑↑		
Traffic Volume (vph)	233	361	64	159	327	25	49	908	192	24	979	164	
Future Volume (vph)	233	361	64	159	327	25	49	908	192	24	979	164	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00					
Frt		0.985			0.993			0.975			0.979		
Flt Protected		0.983			0.985			0.998			0.999		
Satd. Flow (prot)	0	3355	0	0	3389	0	0	3255	0	0	3279	0	
Flt Permitted		0.983			0.985			0.561			0.703		
Satd. Flow (perm)	0	3355	0	0	3389	0	0	1830	0	0	2307	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			3			20					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			3			3			1				
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	271	420	74	166	341	26	51	946	200	26	1064	178	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	765	0	0	533	0	0	1197	0	0	1268	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.19			1.03			1.70			1.45		
Control Delay		147.0			102.1			348.5			242.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		147.0			102.1			348.5			242.3		
LOS		F			F			F			F		
Approach Delay		147.0			102.1			348.5			242.3		
Approach LOS		F			F			F			F		
Queue Length 50th (ft)		~414			~256			~791			~777		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#507			#375			#932			#917		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		641			516			705			873		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.19			1.03			1.70			1.45		

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 132			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.70			
Intersection Signal Delay: 236.9		Intersection LOS: F	
Intersection Capacity Utilization 116.4%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Pkwy & Broadway



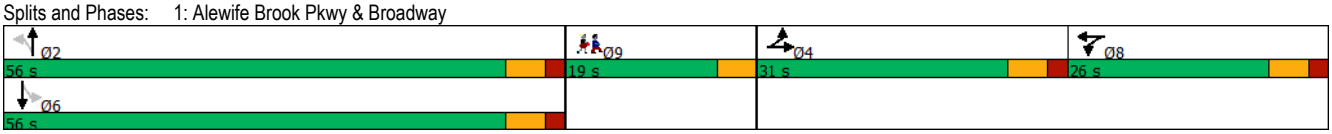
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	188	460	71	220	278	19	33	505	77	53	983	158	
Future Volume (vph)	188	460	71	220	278	19	33	505	77	53	983	158	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00			1.00		
Frt		0.985			0.994			0.981			0.980		
Flt Protected		0.987			0.979			0.997			0.998		
Satd. Flow (prot)	0	3346	0	0	3340	0	0	3266	0	0	3269	0	
Flt Permitted		0.987			0.979			0.592			0.781		
Satd. Flow (perm)	0	3346	0	0	3340	0	0	1939	0	0	2558	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			2			14					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			32			4			1			2	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	202	495	76	239	302	21	37	567	87	58	1068	172	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	773	0	0	562	0	0	691	0	0	1298	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.21			1.11			0.93			1.34		
Control Delay		152.4			123.6			58.7			194.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		152.4			123.6			58.7			194.6		
LOS		F			F			E			F		
Approach Delay		152.4			123.6			58.7			194.6		
Approach LOS		F			F			E			F		
Queue Length 50th (ft)		~422			~288			291			~761		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#553			#408			#412			#901		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		640			507			743			968		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.21			1.11			0.93			1.34		

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 132			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 144.5		Intersection LOS: F	
Intersection Capacity Utilization 106.2%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Pkwy & Broadway



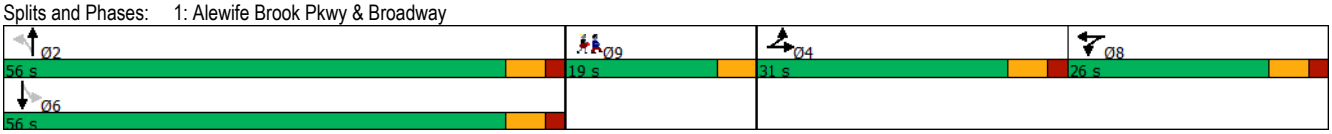
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	235	365	64	159	328	25	49	908	192	24	979	165	
Future Volume (vph)	235	365	64	159	328	25	49	908	192	24	979	165	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00					
Frt		0.986			0.993			0.975			0.979		
Flt Protected		0.983			0.985			0.998			0.999		
Satd. Flow (prot)	0	3359	0	0	3389	0	0	3255	0	0	3279	0	
Flt Permitted		0.983			0.985			0.561			0.703		
Satd. Flow (perm)	0	3359	0	0	3389	0	0	1830	0	0	2307	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		7			3			20					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			3			3			1				
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	273	424	74	166	342	26	51	946	200	26	1064	179	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	771	0	0	534	0	0	1197	0	0	1269	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.20			1.03			1.70			1.45		
Control Delay		150.6			102.6			348.5			242.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		150.6			102.6			348.5			242.8		
LOS		F			F			F			F		
Approach Delay		150.6			102.6			348.5			242.8		
Approach LOS		F			F			F			F		
Queue Length 50th (ft)		~420			~257			~791			~778		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#513			#377			#932			#918		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		641			516			705			873		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			1.03			1.70			1.45		

Intersection Summary			
Area Type:	Other		
Cycle Length: 132			
Actuated Cycle Length: 132			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.70			
Intersection Signal Delay: 237.6		Intersection LOS: F	
Intersection Capacity Utilization 116.6%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Alewife Brook Pkwy & Broadway



Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	577	380	25	39	17
Future Vol, veh/h	10	577	380	25	39	17
Conflicting Peds, #/hr	19	0	0	19	19	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	85	85	44	44
Heavy Vehicles, %	0	4	6	0	6	0
Mvmt Flow	11	656	447	29	89	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	495	0	-	0	1178	500
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	697	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1079	-	-	-	207	575
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	487	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1059	-	-	-	196	551
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	478	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	34.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1059	-	-	-	244
HCM Lane V/C Ratio	0.011	-	-	-	0.522
HCM Control Delay (s)	8.4	0	-	-	34.8
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	2.8

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	523	424	23	23	14
Future Vol, veh/h	12	523	424	23	23	14
Conflicting Peds, #/hr	23	0	0	23	23	23
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	84	84	71	71
Heavy Vehicles, %	25	2	2	18	0	33
Mvmt Flow	14	594	505	27	32	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	555	0	-	0	1187	565
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	645	-
Critical Hdwy	4.35	-	-	-	6.4	6.53
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.597
Pot Cap-1 Maneuver	910	-	-	-	210	470
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	526	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	890	-	-	-	196	446
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	23.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	890	-	-	-	249
HCM Lane V/C Ratio	0.015	-	-	-	0.209
HCM Control Delay (s)	9.1	0	-	-	23.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	673	436	28	44	20
Future Vol, veh/h	11	673	436	28	44	20
Conflicting Peds, #/hr	19	0	0	19	19	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	85	85	44	44
Heavy Vehicles, %	0	4	6	0	6	0
Mvmt Flow	13	765	513	33	100	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	565	0	-	0	1359	568
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	810	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1017	-	-	-	161	526
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	431	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	999	-	-	-	152	504
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	423	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	64.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	999	-	-	-	194
HCM Lane V/C Ratio	0.013	-	-	-	0.75
HCM Control Delay (s)	8.6	0	-	-	64.4
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	5

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	607	513	26	53	24
Future Vol, veh/h	13	607	513	26	53	24
Conflicting Peds, #/hr	23	0	0	23	23	23
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	84	84	71	71
Heavy Vehicles, %	25	2	2	18	0	33
Mvmt Flow	15	690	611	31	75	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	665	0	-	0	1393	673
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	743	-
Critical Hdwy	4.35	-	-	-	6.4	6.53
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.597
Pot Cap-1 Maneuver	825	-	-	-	158	406
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	474	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	147	386
Mov Cap-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	464	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	50.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	807	-	-	-	182
HCM Lane V/C Ratio	0.018	-	-	-	0.596
HCM Control Delay (s)	9.5	0	-	-	50.4
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	3.3

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	673	436	33	46	21
Future Vol, veh/h	14	673	436	33	46	21
Conflicting Peds, #/hr	19	0	0	19	19	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	85	85	44	44
Heavy Vehicles, %	0	4	6	0	6	0
Mvmt Flow	16	765	513	39	105	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	571	0	-	0	1368	571
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	816	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1012	-	-	-	159	524
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	994	-	-	-	149	502
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	420	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	72.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	994	-	-	-	191
HCM Lane V/C Ratio	0.016	-	-	-	0.797
HCM Control Delay (s)	8.7	0	-	-	72.3
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	5.5

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	607	513	28	59	27
Future Vol, veh/h	14	607	513	28	59	27
Conflicting Peds, #/hr	23	0	0	23	23	23
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	84	84	71	71
Heavy Vehicles, %	25	2	2	18	0	33
Mvmt Flow	16	690	611	33	83	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	667	0	-	0	1396	674
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	745	-
Critical Hdwy	4.35	-	-	-	6.4	6.53
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.597
Pot Cap-1 Maneuver	823	-	-	-	157	405
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	473	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	805	-	-	-	145	385
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	463	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	58.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	805	-	-	-	180
HCM Lane V/C Ratio	0.02	-	-	-	0.673
HCM Control Delay (s)	9.6	0	-	-	58.5
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	4

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	3	8	39	64	0
Future Vol, veh/h	0	3	8	39	64	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	9	42	70	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	130	70	70	0	-	0
Stage 1	70	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	864	993	1531	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	859	993	1531	-	-	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1531	-	993	-	-
HCM Lane V/C Ratio	0.006	-	0.003	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

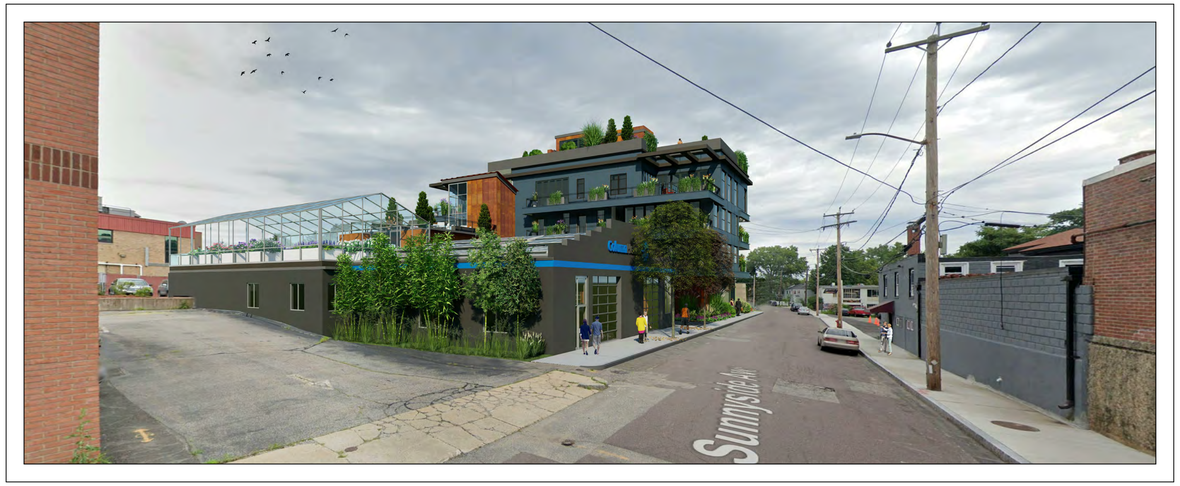
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	9	3	39	43	0
Future Vol, veh/h	0	9	3	39	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	0
Mvmt Flow	0	10	3	42	47	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	95	47	47	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	905	1022	1560	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	903	1022	1560	-	-	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	974	-	-	-	-	-

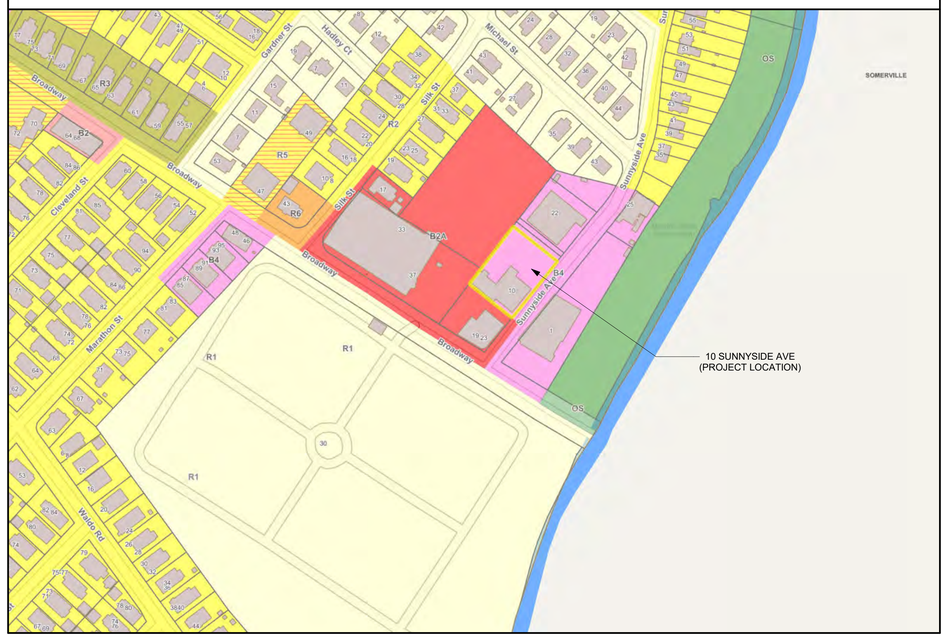
Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1560	-	1022	-	-
HCM Lane V/C Ratio	0.002	-	0.01	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



SUBMISSION TO TOWN OF ARLINGTON
12-08-2020

LOCUS PLAN



PROJECT:
COLUMN HEALTH OFFICES & RESIDENTS

PROJECT ADDRESS:
10 SUNNYSIDE AVENUE
ARLINGTON MASSACHUSETTS

ARCHITECT
KHALSA DESIGN INC.
17 IVALOO STREET, SUITE 400
SOMERVILLE, MA 02143
617-591-8682

CLIENT
COLUMN HEALTH LLC
339 MASSACHUSETTS AVE
ARLINGTON, MA 02474
617-539-6780

Architectural Drawing List

Sheet Number	Sheet Name	Sheet Issue Date
A-000	Cover Sheet	12/08/20
SV-1	Existing Conditions Plan	12/07/20
C-1	Civil Title Sheet	12/07/20
C-2	Legend and General Notes	12/07/20
C-3	Layout & Materials Plan	12/07/20
C-4	Grading & Drainage Plan	12/07/20
C-5	Utilities Plan	12/07/20
C-6	Erosion Control & Sedimentation Plan	12/07/20
C-7	Site Details 1	12/07/20
C-8	Site Details 2	12/07/20
A-020	Architectural Site Plan	12/08/20
A-020.1	Site Locus & Zoning	01/21/21
A-021	Apartments Gross Area Plan	12/08/20
A-022	Offices Gross Area Plan	12/08/20
A-101	Residential - First Floor Plan	12/08/20
A-102	Residential - Second Floor Plan	12/08/20
A-103	Residential - Third Floor Plan	12/08/20
A-104	Residential - Fourth Floor Plan	12/08/20
A-105	Residential - Roof Deck Floor Plan	12/08/20
A-106	Commercial - Basement Floor Plan	12/08/20
A-109	Commercial - Green House / Cafe Floor Plan	12/08/20
A-110	Commercial - Roof Deck Floor Plan	12/08/20
A-300	Residential -Front Elevation	12/08/20
A-301	Residential - Rear Elevation	12/08/20
A-302	Residential - Left Side Elevation	12/08/20
A-303	Residential - Right Side Elevation	12/08/20
A-304	Commercial - Front & Rear Elevations	12/08/20
A-305	Commercial - Left & Right Elevations	12/08/20
A-306	Perspectives #1	12/08/20
A-307	Perspectives #2	12/08/20
A-308	Realistic Rendering	12/08/20
A-309	Realistic Rendering	12/08/20
A-310	Realistic Perspectives	12/08/20

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN KHALSA
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SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
MARTIN KHALSA
NO. 6843
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	

REVISIONS

No.	Description	Date

Cover Sheet

A-000

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt

2/5/2021 10:08:55 AM

UTILITY NOTE

THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND ARE BASED UPON A FIELD SURVEY AND A COMPILATION OF AVAILABLE PLANS OF RECORD FROM THE VARIOUS UTILITY COMPANIES. THE INFORMATION PROVIDED IS FOR THE USE OF THE CONTRACTOR. NEITHER WARRANTY NOR GUARANTEE OF THE INFORMATION IS PROVIDED. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES BY CONTACTING THE RESPECTIVE UTILITY COMPANIES AND 'DIG-SAFE' (1-888-344-7233) PRIOR TO CONSTRUCTION.

GAS ——— G ———
TELEPHONE ——— T ———
ELECTRIC ——— E ———

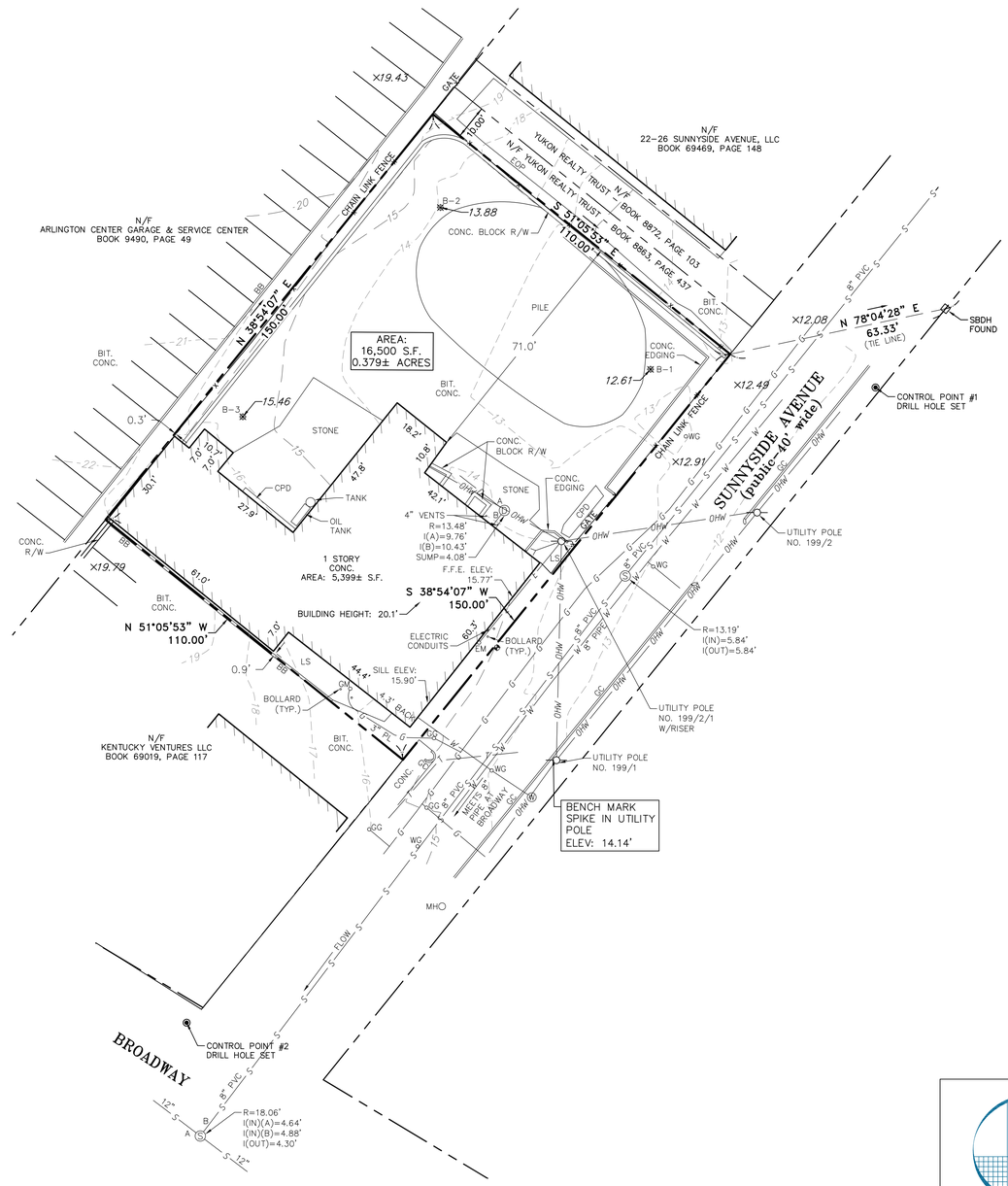
WATER ——— W ———
SEWER ——— S ———

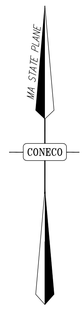
PLAN REFERENCES

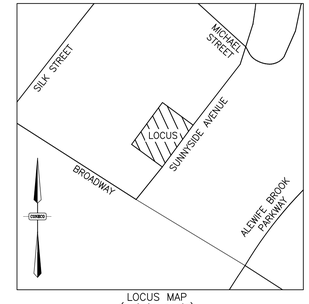
1. BOOK 3202, PAGE END
2. BOOK 2637, PAGE 301
3. PLAN NO. 1177 OF 1946
4. PLAN NO. 415 OF 1947
5. PLAN NO. 345 OF 1957
6. PLAN NO. 723 OF 1955

LEGEND

⊡ SBDH	STONE BOUND DRILL HOLE
o GM	GAS METER
o GG	GAS GATE
o WG	WATER GATE
—○—	UTILITY POLE
(S)	SEWER MANHOLE
(D)	DRAIN MANHOLE
(W)	WATER MANHOLE
○ MH	MANHOLE
⊕	MONITORING WELL
⊕ B-1	SOIL BORING
LS	LANDSCAPING
R/W	RETAINING WALL
BB	BITUMINOUS BERM
BIT. CONC.	BITUMINOUS CONCRETE
CONC.	CONCRETE
CPD	CONCRETE PAD
GC	GRANITE CURB
EOP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
PL	PLASTIC
R	RIM
I	INVERT
CLF ——x——	CHAIN LINK FENCE
——OHW——	OVERHEAD WIRES
	PROPERTY LINE







LOCUS MAP
(not to scale)

ZONING NOTES:

Zoning District: "B4" Vehicular Oriented Business District

Minimum Lot Size: None
Minimum Frontage: 50 feet
Minimum Open Space: None
Maximum Floor Area Ratio: 1.5
Front Yard Setback: None
Rear Yard Setback: 13 Feet
Side Yard Setback: None
Maximum Building Height: 4 stories or 50 feet

NOTES:

1. VERTICAL DATUM: NAVD 88.
2. LOCUS PROPERTY IS IN ZONE X AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25017C0417E DATED JUNE 4, 2010.

I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL, AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

TIMOTHY S. BODAH, PLS

OWNER OF RECORD:
MB REALTY GROUP LLC
PARCEL ID: 33-2-2.B
BOOK 73883, PAGE 259

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

CONECO
Engineers & Scientists
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324
PHONE 508-697-3191 OR 800-548-3355; FAX 508-697-5996
WEBSITE: www.coneco.com

20' 0 20' 40'
SCALE IN FEET

EXISTING CONDITIONS PLAN

10 SUNNYSIDE AVENUE
ARLINGTON, MA

PREPARED FOR:	EBI CONSULTING		
SCALE	DATE	ACAD FILE	JOB NO.
1" = 20'	11/09/2020	11157.DWG	11157

Site Plans
for
Column Health Offices & Residences
10 Sunnyside Avenue, Arlington, MA

Issued For: Local Approvals
Date Issued: December 7, 2020

SHEET INDEX

EBI Consulting Drawings

SHEET NO.	SHEET TITLE	LATEST ISSUE
C-1	Title Sheet	12/7/2020
C-2	Legend & General Notes	12/7/2020
C-3	Layout & Materials Plan	12/7/2020
C-4	Grading & Drainage Plan	12/7/2020
C-5	Utilities Plan	12/7/2020
C-6	Erosion Control & Sedimentation Plan	12/7/2020
C-7	Site Details 1	12/7/2020
C-8	Site Details 2	12/7/2020

Reference Drawings

SHEET NO.	SHEET TITLE	LATEST ISSUE
Sv-1	Existing Conditions Plan	6/12/2015

Dig Safe Systems, Inc.
1-888-DIG-SAFE
(1-888-344-7233)

LOCUS MAP



Source: MassGIS

PROPERTY INFORMATION

OWNER
Column Health LLC
339 Massachusetts Avenue
Arlington, MA 02474
Tel: 617-539-6780
www.coneco.com

APPLICANT
Column Health LLC
339 Massachusetts Avenue
Arlington, MA 02474
Tel: 617-539-6780
www.coneco.com

ASSESSOR'S INFORMATION
Map #033.0, Lot #0002.B

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Quincy, MA 02169
Tel: 781-273-2500
www.ebiconsulting.com

ARCHITECT
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Somerville, MA 02143
Tel: (617) 591-8682

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www.ebiconsulting.com

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER M. MANNUZZI
CIVIL
No. 41384
REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
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Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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DRAWING SCALES NOTED ARE FOR 24" x 36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Title Sheet

SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-1
1 OF 8

LEGEND

General

- PROPERTY LINE
- RIGHT-OF-WAY
- INTERNAL LOT LINE
- ABUTTING PROPERTY LINE
- EASEMENT
- BLSF — BORDERING LAND SUBJECT TO FLOODING
- 200'RA — 200' RIVERFRONT AREA
- 100'RA — 100' RIVERFRONT AREA
- 100'BZ — 100' WETLAND BUFFER ZONE
- NDZ — NO DISTURB ZONE
- LIMIT OF DISTURBANCE
- BORING LOCATION (BL 10 EL=98.5)
- MONITORING WELL (MW 2 EL=100.5)
- TEST PIT LOCATION (TP 5 EL=112.7)
- MATCHLINE

Layout and Materials

- BUILDING (100'–6")
- BUILDING ENTRANCE (EN)
- LOADING DOCK (LD)
- PARKING GARAGE (PG)
- BUILDING SETBACK
- BASELINE (50+00)
- LIMIT OF WORK
- SAWCUT LINE
- GRAVEL ROAD
- EDGE OF PAVEMENT (EOP)
- VERTICAL GRANITE CURB (VGC)
- LIMIT OF CURB TYPE (VGC / PCC)
- CONCRETE SIDEWALK (VGC)
- PAVER SIDEWALK (VGC)
- LANDSCAPE BUFFER
- PARKING SETBACK
- TOTAL PARKING COUNT (50)
- STANDARD STALL COUNT (20)
- COMPACT STALL COUNT (C10)
- ACCESSIBLE PARKING
- VAN ACCESSIBLE PARKING (VAN)
- ACCESSIBLE CURB RAMP
- CROSSWALK
- PARKING BUMPER
- DIRECTIONAL SIGN
- BOLLARD
- PEDESTRIAN LIGHT POLE
- PARKING LOT LIGHT POLE
- UTILITY POLE
- GUY POLE
- OHW — OVERHEAD WIRE
- RETAINING WALL
- STONE WALL
- BARB WIRE FENCE
- CHAIN LINK FENCE
- CONSTRUCTION FENCE
- STOCKADE FENCE
- STEEL GUARDRAIL
- WOOD GUARDRAIL
- PATH
- TREE LINE

Erosion Control

- EROSION CONTROL BARRIER
- STRAW BALES
- STABILIZED CONSTRUCTION EXIT
- SILT SACK SEDIMENT TRAP

Grading

- 10 — MAJOR CONTOUR
- 1 — MINOR CONTOUR
- 100.5 TC / 100.0 BC — SPOT ELEVATION
- DETENTION BASIN
- SWALE
- BIORETENTION AREA
- 100-YEAR FLOOD ELEVATION
- 10-YEAR FLOOD ELEVATION
- RIPRAP SLOPE

Drainage

- 12"D — DRAIN
- 6"RD — ROOF DRAIN
- 6"UD — UNDER DRAIN
- SINGLE CATCH BASIN
- DOUBLE CATCH BASIN
- DRAIN MANHOLE
- CO — CLEANOUT
- INSP — INSPECTION PORT
- DS — DOWNSPOUT
- FLARED END SECTION
- HEADWALL
- RIPRAP OUTFALL

Utilities

- 6"S — SEWER
- FM — FORCE MAIN
- SEWER MANHOLE
- PLUG OR CAP
- 6"W — WATER
- 2"DW — DOMESTIC WATER
- 6"FP — FIRE PROTECTION
- CS — CURB STOP AND BOX
- HYD — FIRE HYDRANT
- PIV — POST INDICATOR VALVE
- 8"W — 6"W — REDUCER
- SHUT-OFF VALVE
- SIAMESE CONNECTION
- TSV — TAPPING SLEEVE AND VALVE
- WV — WATER VALVE AND BOX
- WM — WATER METER
- G — GAS
- GG — GAS GATE
- GM — GAS METER
- UGE — UNDERGROUND ELECTRIC
- EMH — ELECTRIC MANHOLE
- EM — ELECTRIC METER
- T — TRANSFORMER PAD
- UGT — UNDERGROUND TELEPHONE
- TMH — TELEPHONE MANHOLE
- CATV — CABLE TV
- FO — FIBER OPTICS
- CONDUIT
- HH — HAND HOLE
- PB — PULL BOX

ABBREVIATIONS

General

ACR	ACCESSIBLE CURB RAMP
ADA	AMERICANS WITH DISABILITIES ACT
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BC	BOTTOM OF CURB
BCB	BITUMINOUS CONCRETE BERM
BCC	BITUMINOUS CONCRETE CURB
BIT	BITUMINOUS
BLDG	BUILDING
BLSF	BORDERING LAND SUBJECT TO FLOODING
BOT	BOTTOM
BS	BOTTOM OF SLOPE
BW	BOTTOM OF WALL
BWLL	BROKEN WHITE LANE LINE
CCB	CAPE COD BERM
CLF	CHAIN LINK FENCE
CONC	CONCRETE
DPW	DEPARTMENT OF PUBLIC WORKS
DYCL	DOUBLE YELLOW CENTER LINE
ECC	EXTRUDED CONCRETE CURB
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EX	EXISTING
EXIST	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
HP	HIGH POINT
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
LOW	LIMIT OF WORK
LP	LOW POINT
MAX	MAXIMUM
MCC	MONOLITHIC CONCRETE CURB
ME	MATCH EXISTING
MIN	MINIMUM
NDZ	NO DISTURB ZONE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PCC	PRECAST CONCRETE CURB
PL	PROPERTY LINE
PROP	PROPOSED
R	RADIUS
RA	RIVERFRONT AREA
REM	REMOVE
RET	RETAIN
ROW	RIGHT-OF-WAY
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SGE	SLOPED GRANITE EDGING
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TC	TOP OF CURB
TR	TRASH BAY
TS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
VGC	VERTICAL GRANITE CURB

Utilities

ABAN	ABANDON
ADJ	ADJUST
CATV	CABLE TV
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COND	CONDUIT
CS	CURB STOP AND BOX
DIA	DIAMETER
DCB	DOUBLE CATCH BASIN
DET	DETENTION
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
DS	DOWNSPOUT
DW	DOMESTIC WATER
EMH	ELECTRIC MANHOLE
FA	FIRE ALARM
FES	FLARED END SECTION
FP	FIRE PROTECTION
FM	FORCE MAIN
FO	FIBER OPTICS
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
GG	GAS GATE
GI	GUTTER INLET
GM	GAS METER
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HAND HOLE
HW	HEADWALL
HYD	HYDRANT
INF	INFILTRATION
INSP	INSPECTION PORT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
MES	METAL END SECTION
MW	MONITORING WELL
OHW	OVERHEAD WIRE
PB	PULL BOX
PIV	POST INDICATOR VALVE
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
R=	RIM ELEVATION
SAS	SOIL ABSORPTION SYSTEM
SCB	SINGLE CATCH BASIN
SLP	SITE LIGHT POLE
SMH	SEWER MANHOLE
SYS	SYSTEM
TMH	TELEPHONE MANHOLE
TSV	TAPPING SLEEVE, VALVE, AND BOX
UD	UNDERDRAIN
UG	UNDERGROUND
UP	UTILITY POLE
WM	WATER METER
WQI	WATER QUALITY INLET
WQS	WATER QUALITY STRUCTURE
WV	WATER VALVE AND BOX

GENERAL NOTES

General Information:

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY, CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS, AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS, AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.

Existing Conditions:

1. THE EXISTING CONDITIONS SHOWN ARE BASED ON THE EXISTING CONDITIONS SURVEY PREPARED BY CONECO ENGINEERS & SCIENTISTS, 4 FIRST STREET, BRIDGEWATER, MA 02324, 508-697-3191, WWW.CONECO.COM.
2. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND COMPILED FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES.

Erosion Control:

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Demolition:

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS, REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE, AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

Layout and Materials:

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURBING SHALL BE PRECAST CONCRETE CURB (PCC) AND CURB RADII SHALL BE THREE FEET (3') WITHIN THE SITE, UNLESS OTHERWISE INDICATED ON THE SITE PLANS.
3. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
4. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
5. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURER'S LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
6. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Utilities:

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR IT'S REPRESENTATIVES HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF ALL CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FORM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY UTILITIES COMPANY.
4. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
   - A. STORM DRAINAGE PIPES SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35 SEWER PIPE
   - B. SANITARY SEWER PIPES SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35 SEWER PIPE
   - C. WATER PIPES SHALL BE COPPER TYPE K OR CEMENT LINED DUCTILE IRON, CLASS 52, AS NOTED.

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COMMONWEALTH OF MASSACHUSETTS — CHRISTOPHER M. IANNUZZI — CIVIL — No. 41304 — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

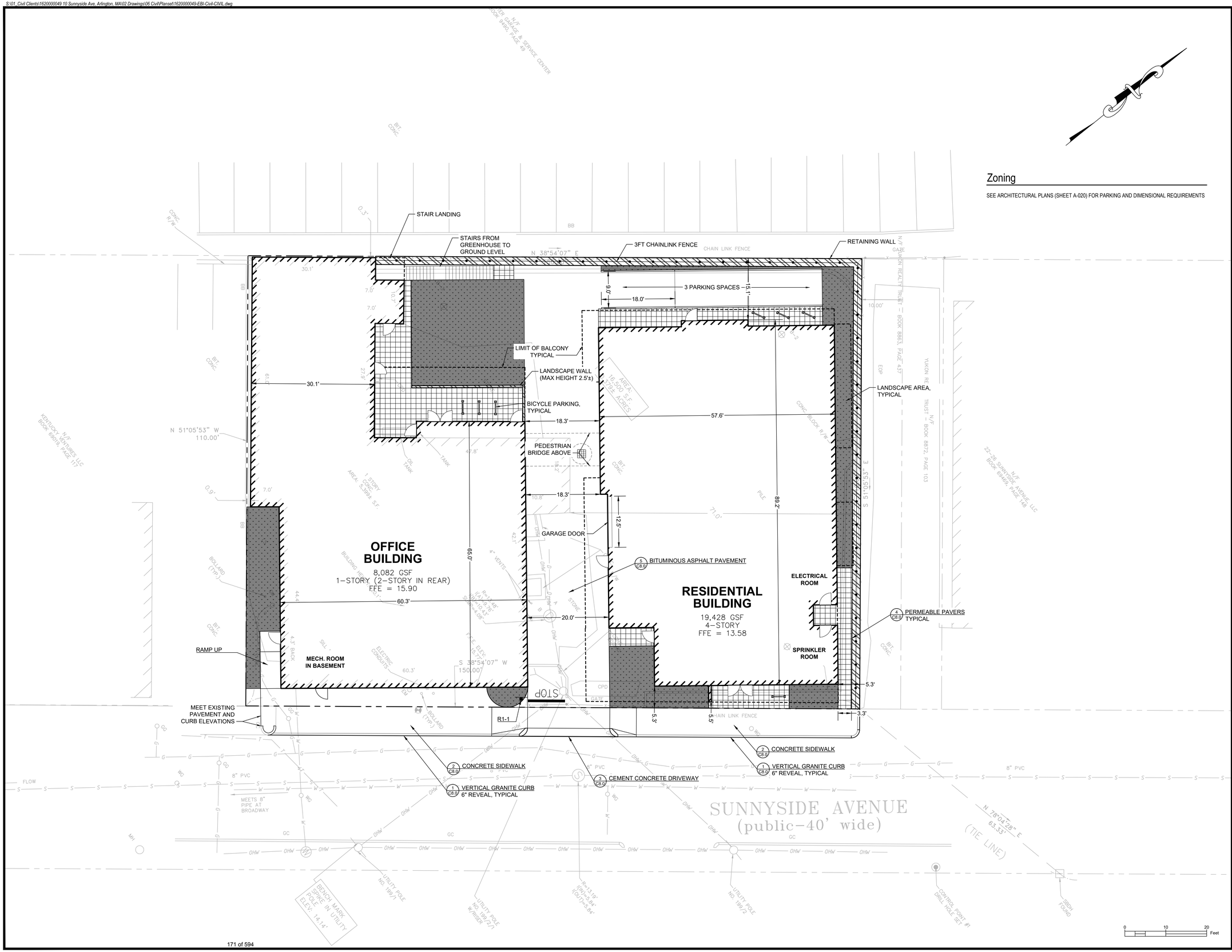
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Legend & General Notes

SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-2
2 OF 8



Zoning

SEE ARCHITECTURAL PLANS (SHEET A-020) FOR PARKING AND DIMENSIONAL REQUIREMENTS

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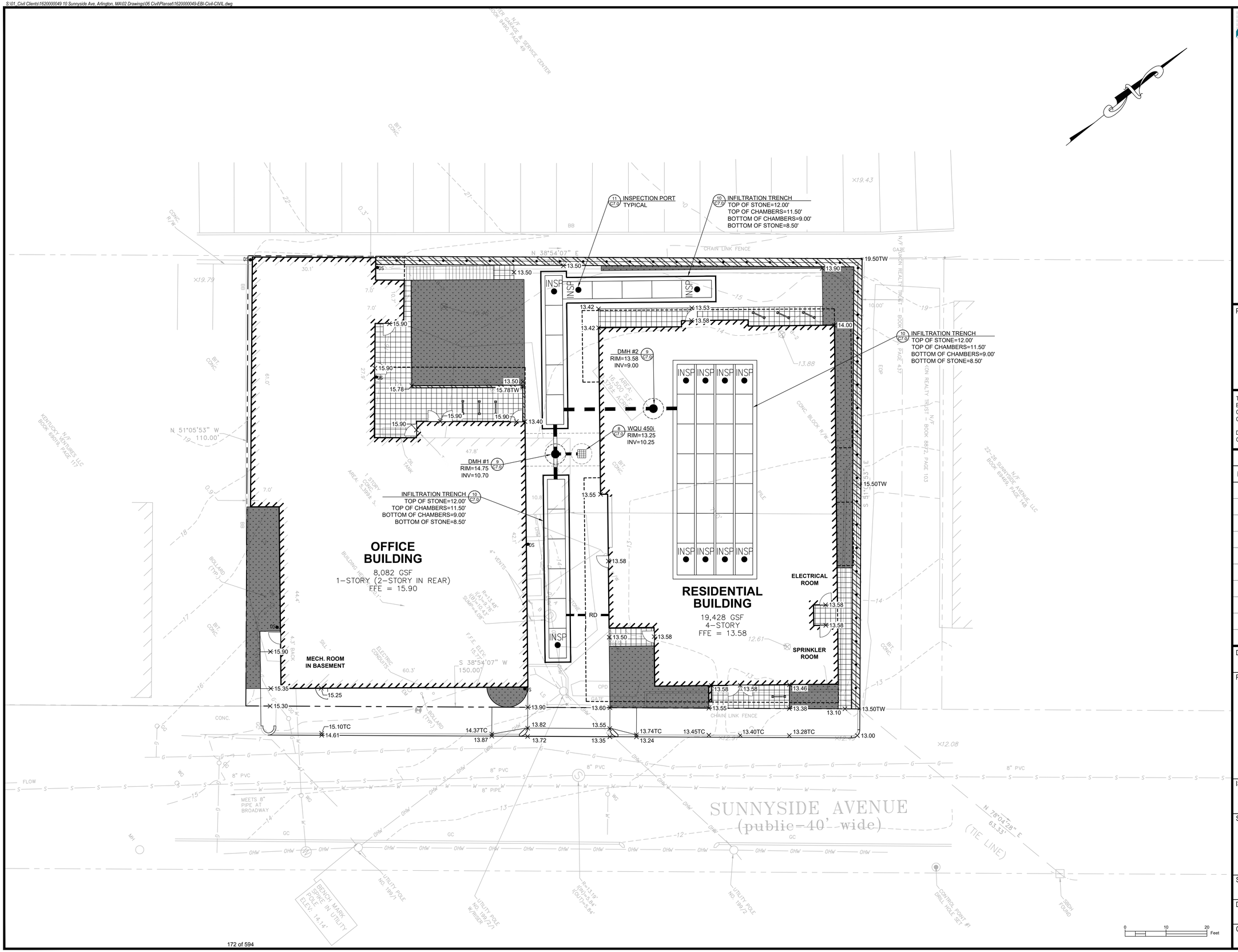
PROJECT TITLE:
Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Layout & Materials Plan

SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC
SHEET NO: C-3
3 OF 8



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COMMONWEALTH OF MASSACHUSETTS
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PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

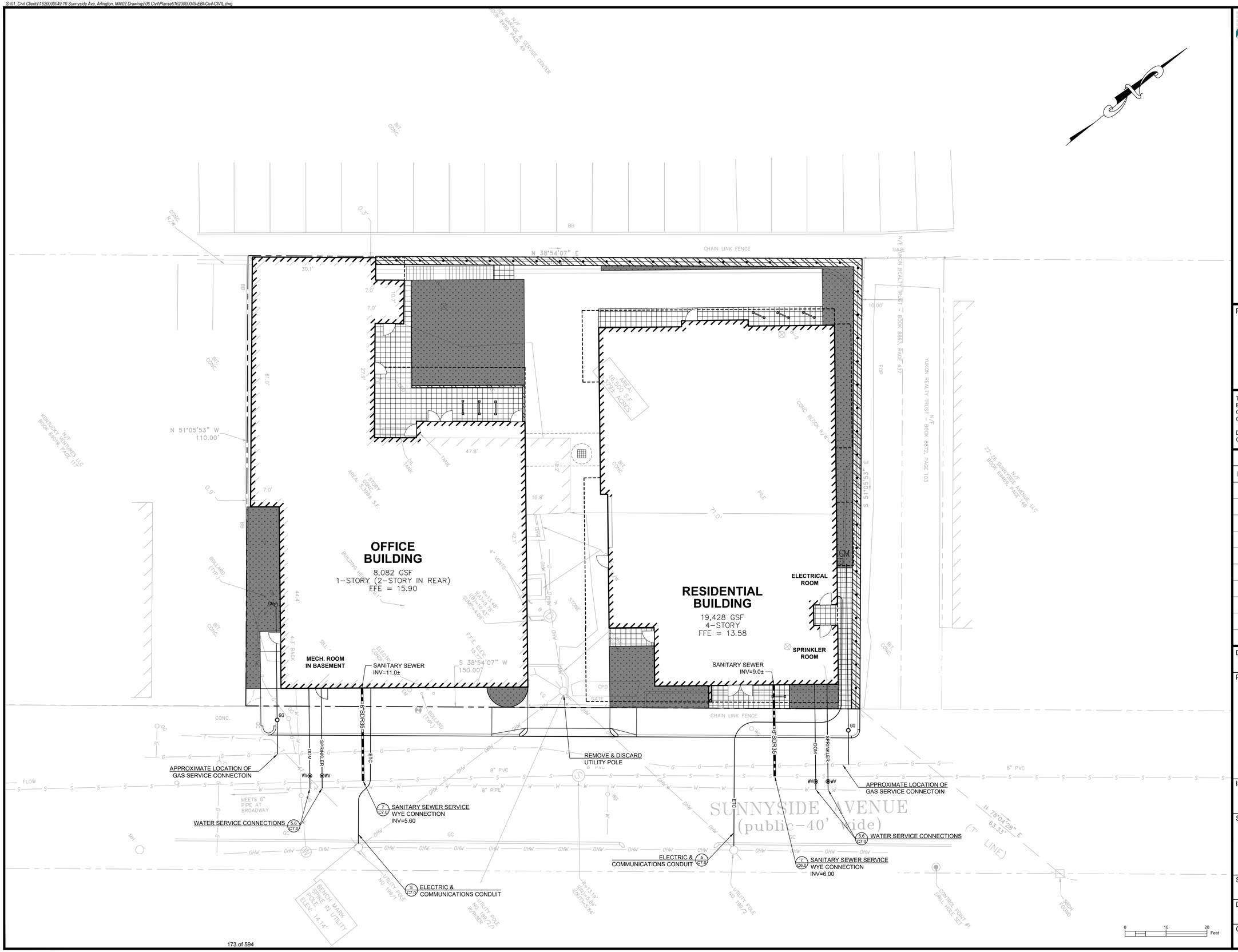
ISSUED FOR:
Local Approvals
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SHEET TITLE:
Grading, Drainage, & Erosion Control Plan

SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-4
4 OF 8

S:\01_Civil Clients\1620000049 10 Sunnyside Ave, Arlington, MA\02 Drawings\06 Civil\Planset\1620000049-EBI-Civil-CIVIL.dwg



173 of 594

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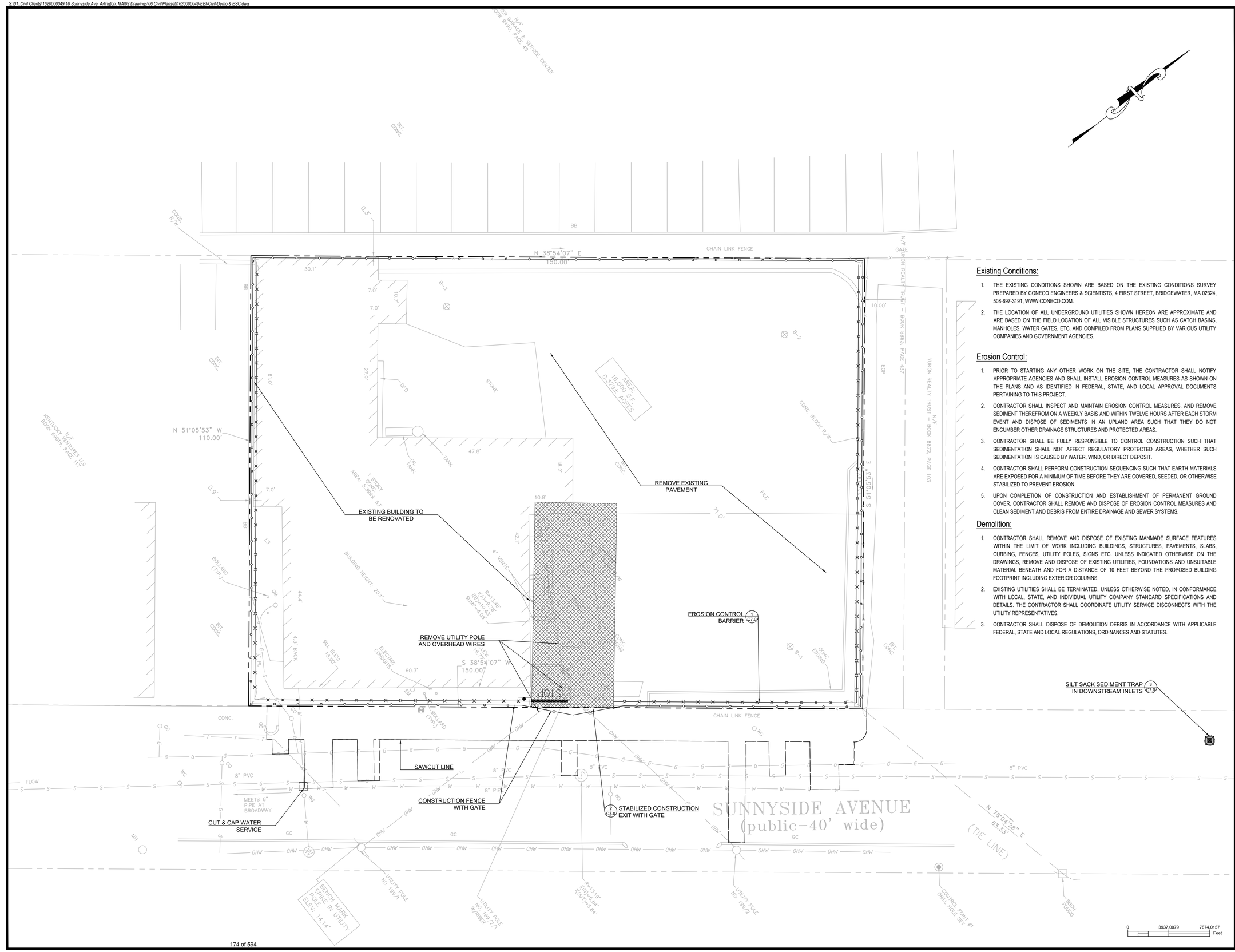
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Utilities Plan

SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-5
5 OF 8



Existing Conditions:

1. THE EXISTING CONDITIONS SHOWN ARE BASED ON THE EXISTING CONDITIONS SURVEY PREPARED BY CONECO ENGINEERS & SCIENTISTS, 4 FIRST STREET, BRIDGEWATER, MA 02324, 508-697-3191, WWW.CONECO.COM.
2. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND COMPILED FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES.

Erosion Control:

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2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
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Demolition:

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2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE, AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

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COMMONWEALTH OF MASSACHUSETTS
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SUBMITTALS

NO.	DATE	DESCRIPTION	BY

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PROJECT NUMBER: 1620000049

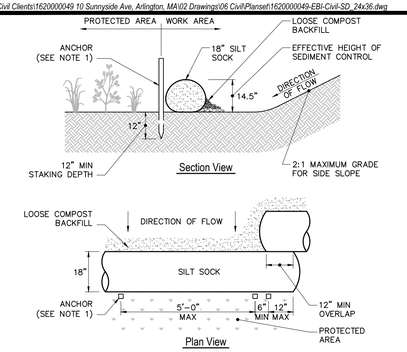
PROJECT TITLE:
Column Health Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Demo and Sedimentation & Erosion Control Plan

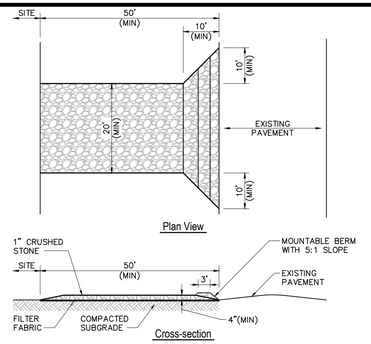
SCALE: 1" = 10'
DESIGNED BY: RLB
CHECKED BY: MFC
SHEET NO: C-6
3 OF 8



CONSTRUCTION NOTES

1. ANCHOR TO BE A 2" X 2" X 36" HARD WOOD STAKE, OR APPROVED EQUAL.
2. COMPOST FOR SILT SOCK FILL MATERIAL TO BE PROVIDED BY THE MANUFACTURER IN CONJUNCTION WITH THE ENGINEER TO PROVIDE THE REQUIRED REMOVAL OF SEDIMENT OR OTHER POLLUTANTS FROM RUNOFF.
3. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE LOCAL CONSERVATION AGENT OR THE DESIGN ENGINEER.
4. SILT SOCK SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS OR PER LOCAL AND STATE REQUIREMENTS. REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY, AS NEEDED.
5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.

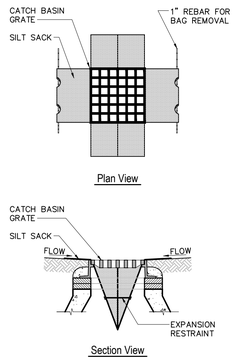
SILT SOCK - EROSION CONTROL BARRIER
SCALE:N.T.S. — 1



CONSTRUCTION NOTES

1. ENTRANCE WIDTH SHALL BE A TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION ENTRANCE SHALL BE REMOVED PRIOR TO FINAL FINISHED MATERIALS BEING INSTALLED.

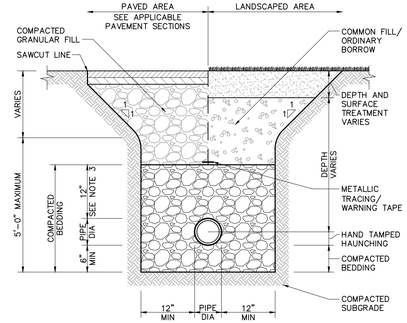
STABILIZED CONSTRUCTION EXIT
SCALE:N.T.S. — 2



CONSTRUCTION NOTES

1. INSTALL SILT SACKS IN ALL CATCH BASINS WHERE INDICATED ON THE SITE PLANS BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER THE BINDER COURSE IS PLACED AND EROSION CONTROL BARRIERS HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILT SACK.
3. SILT SACKS SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS. CLEANING OR REPLACEMENT SHALL BE PERFORMED AS NEEDED. MAINTAIN SILT SACKS UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.

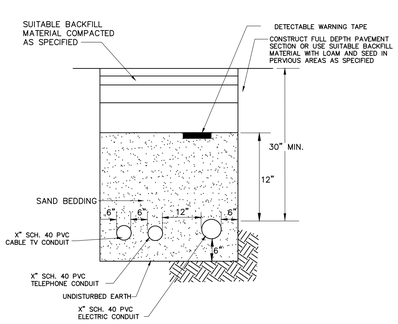
SILT SACK - INLET PROTECTION
SCALE:N.T.S. — 3



CONSTRUCTION NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
3. FOR HIGH DENSITY POLYETHYLENE (HDPE) PIPE, DIMENSION IS 24 INCHES.

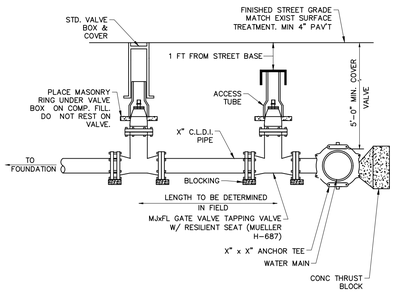
UTILITY TRENCH
SCALE:N.T.S. — 4



NOTE:

1. FINAL SIZE, LOCATION AND NUMBER OF CONDUITS SHALL BE DETERMINED BY THE SERVICE PROVIDER.
2. ELECTRIC CONDUIT UNDER PAVEMENT AREAS SHALL BE GALVANIZED STEEL OR ENCASED 6" OF CONCRETE ON ALL SIDES.

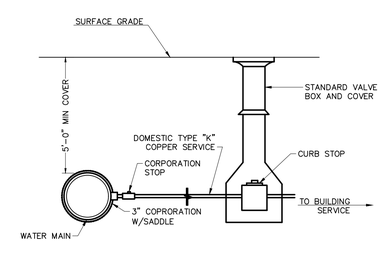
ELECTRIC & COMMUNICATIONS CONDUITS
N.T.S. — 5



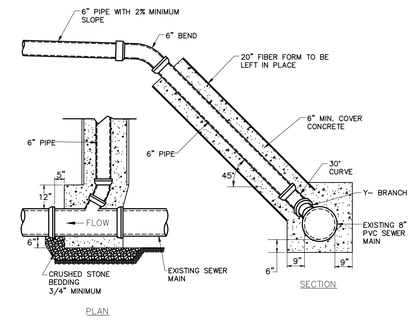
CONSTRUCTION NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH, AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHODS OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.

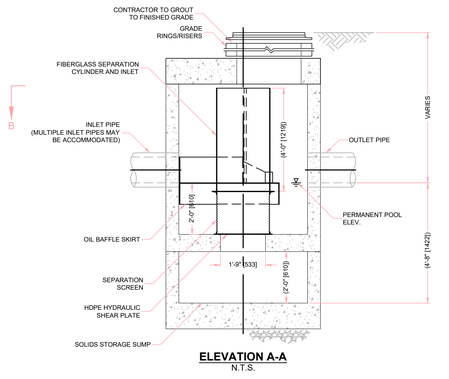
FIRE PROTECTION TEE CONNECTION
SCALE:N.T.S. — 5



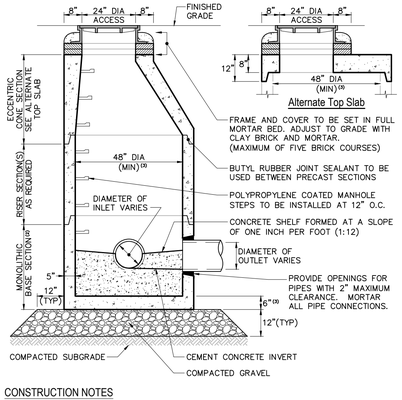
DOMESTIC WATER SERVICE CONNECTION
N.T.S. — 6



SANITARY SEWER SERVICE WYE CONNECTION
N.T.S. — 7



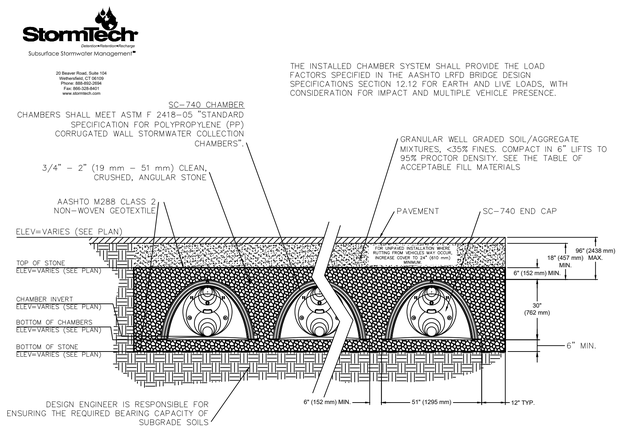
WATER QUALITY UNIT (RINKER 450i)
N.T.S. — 8



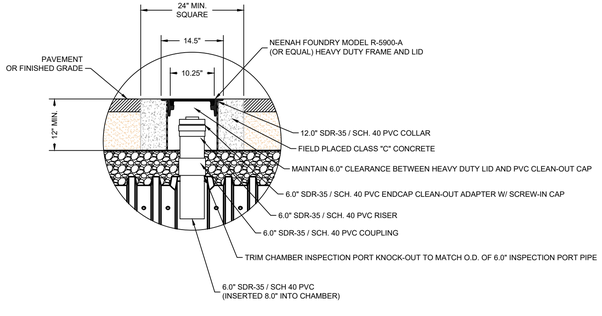
CONSTRUCTION NOTES

1. STRUCTURE TO BE PRECAST CONCRETE, MINIMUM 4,000 PSI. ALL SECTIONS TO BE DESIGNED TO MEET OR EXCEED HS-20 LOADING.
2. BASE TO BE SINGLE POUR MONOLITHIC SECTION.
3. 60" (5'-0") INSIDE DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET. 6" MINIMUM WALL THICKNESS AND 8" MINIMUM BASE THICKNESS FOR 5'-0" DIAMETER PRECAST MANHOLE.

DRAIN MANHOLE (DMH)
SCALE:N.T.S. — 9



INFILTRATION TRENCH - STORMTECH CHAMBERS (SC-740)
SCALE:N.T.S. — 10



INSPECTION PORT
N.T.S. — 11

EBI Consulting
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Tel: 781.273.2500
www.ebiconsulting.com

COMMONWEALTH OF MASSACHUSETTS — CHRISTOPHER M. IANNUZZI — CIVIL — No. 41304 — REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR:
Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health Offices & Residences

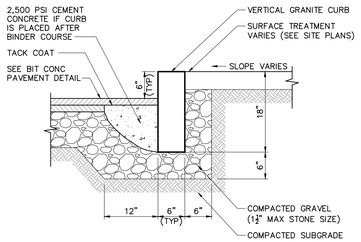
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Site Details 1

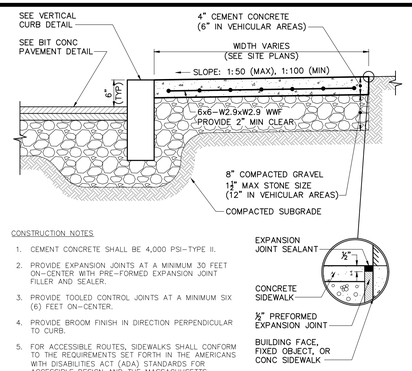
SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

SHEET NO: C-7
6 OF 8



VERTICAL GRANITE CURB (VGC)

SCALE:N.T.S. — 1



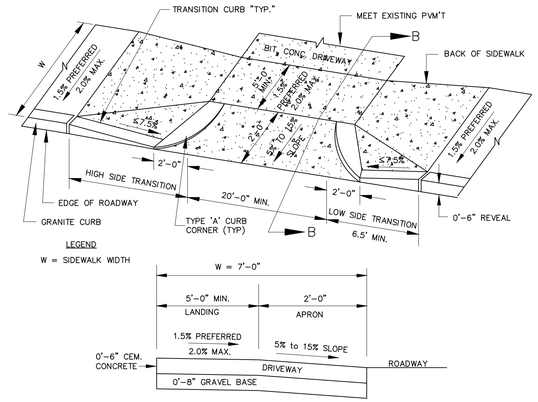
Expansion Joint Detail

CONSTRUCTION NOTES

1. CEMENT CONCRETE SHALL BE 4,000 PSI–TYPE II.
2. PROVIDE EXPANSION JOINTS AT A MINIMUM 30 FEET ON–CENTER WITH PRE–FORMED EXPANSION JOINT FILLER AND SEALER.
3. PROVIDE TOOLED CONTROL JOINTS AT A MINIMUM SIX (6) FEET ON–CENTER.
4. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
5. FOR ACCESSIBLE ROUTES, SIDEWALKS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) RULES AND REGULATIONS (521 CMR).
6. FOR ACCESSIBLE ROUTES, THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE GREATER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACES SHALL NOT BE GREATER THAN 1:50 OR LESS THAN 1:100.
7. FOR ACCESSIBLE ROUTES, WHERE THE SIDEWALK IS LESS THAN FIVE (5) FEET IN WIDTH, EXCLUDING CURBING, A 5' X 5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
8. FOR ACCESSIBLE ROUTES, A MINIMUM CLEARANCE OF THREE (3) FEET SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE; HYDRANTS, UTILITY POLES, SIGN POSTS, ETC.

CEMENT CONCRETE SIDEWALK

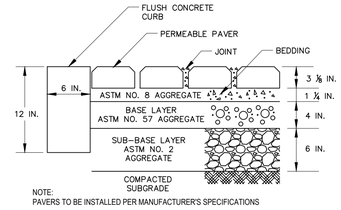
SCALE:N.T.S. — 2



SECTION B–B

CEMENT CONCRETE DRIVEWAY

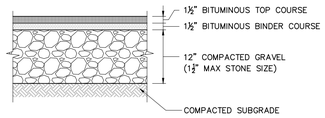
SCALE:N.T.S. — 3



NOTE:
PAVERS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS

PERMEABLE PAVERS

N.T.S. — 5



Standard Duty Flexible Pavement

CONSTRUCTION NOTES

1. PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

BITUMINOUS CONCRETE PAVEMENT

SCALE:N.T.S. — 5

EBI Consulting
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Tel: 781.273.2500
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COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER M. LANNUZZI
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PREPARED FOR:
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Colin Beatty
339 Massachusetts Ave
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cbeatty@columnhealth.com

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SUBMITTALS

NO.	DATE	DESCRIPTION	BY

DATE: December 7, 2020
PROJECT NUMBER: 1620000049

PROJECT TITLE:
Column Health
Offices & Residences

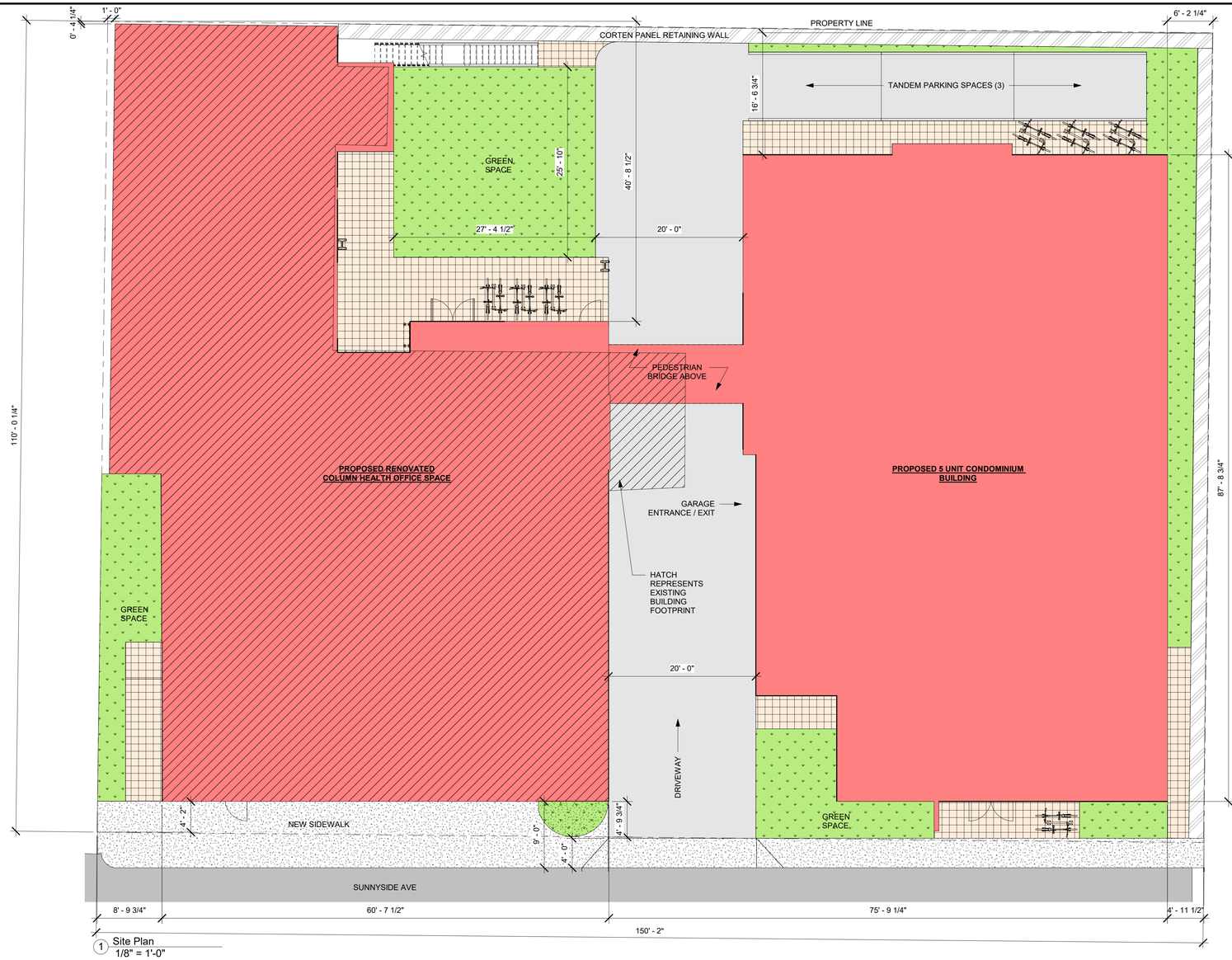
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:
Site Details 2

SCALE: N.T.S.
DESIGNED BY: RLB
CHECKED BY: MFC

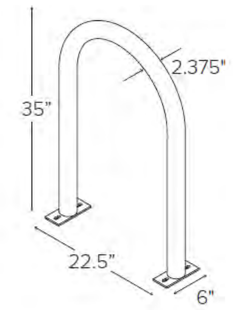
SHEET NO:
C-8
8 OF 8



1 Site Plan
1/8" = 1'-0"

PROPOSED BIKE RACK INFORMATION

DERO
A PLAYCORE Company



KEY

- USEABLE OPEN SPACE
- PROPOSED BUILDING FOOTPRINT
- PAVED AREA
- PERMEABLE PAVERS
- PROPERTY LINE

ZONING DESIGNATION

B4: Vehicular Oriented Business District. The Vehicular Oriented Business District provides for establishments that are primarily oriented to automotive traffic, which means they require large amounts of land in proportion to building coverage. This district also consists of establishments devoted to the sale or servicing of motor vehicles, the sale of vehicular parts and accessories, and service stations. Arlington has an abundance of automotive and automotive accessory sales and service establishments. As these businesses gradually close, the Town has encouraged conversion of the property to other retail, service, office, or residential use, particularly as part of mixed-use development.

DISTRICT USE	MIN LOT AREA SF	MIN LOT AREA PER DU	MIN LOT FRONTAGE
B4			
MIXED USE < = 20,000 SF	N/A	N/A	50'-0" (150'-2" existing)

FRONT YARD (0'-0")	SIDE YARD (0'-0")	REAR YARD (10' +L/10)
VARIES (4'-2" - 5'-0")	1'-0" (L) / 4'-11 1/2" (R)	16'-6 3/4" (CONDO) / (+/- 4" EXISTING GARAGE)

OPEN SPACE N/A	USABLE OPEN SPACE
1,780 SF (10.8%)	1,780 SF @ GRADE / 645 SF GREENHOUSE
	5,784 SF USABLE OPEN SPACE ON RESIDENTIAL FLOORS 2-4

MAX HEIGHT: 60'-0"	MAX STORIES: 5 STORIES
49'-0" ROOF / 60'-0" TOP OF HEADHOUSE	4 STORIES + PRIVATE ROOF DECK LEVEL

MAXIMUM FLOOR AREA RATIO (FAR) 1.5 - 16,500 x 1.5 = 24,750 SF
ADD 5% FAR FOR AVERAGE UNIT SIZE EXCEEDING 1,100 SF (ADDITIONAL 809 SF)
ADD 2 SF FOR EVERY 1 SF OF OPEN SPACE IN EXCESS OF REQUIREMENT (ADDITIONAL 1,704 SF)
TOTAL ALLOWED FAR = 27,263 SF

16,183 SF (CONDO BUILDING) + 8,082 SF (OFFICE BUILDING) = 24,265 SF

PARKING REQUIREMENTS: 2 SPACES PER 3 BED UNIT / 1.5 SPACES FOR 1&2 BED UNIT / 1 SPACE PER 500 SF OF OFFICE SPACE

3 RESIDENTIAL UNITS x 2 SPACES = 6 SPACES + 2 RESIDENTIAL UNITS X 1.5 SPACES = 3 SPACES (TOTAL OF 9 SPACES FOR RESIDENTIAL)
5,145 SF OF OFFICE/ 500 SF = 11 SPACES (20 TOTAL)

21 SPACES PROVIDED

BICYCLE PARKING: 1.5 PER DWELLING UNIT LONG TERM / .10 PER DWELLING UNIT SHORT TERM

8 BIKE SPACES LONG TERM + .5 SHORT TERM = 9 BIKE SPACES (14 SPACES PROVIDED)

BICYCLE PARKING: .30 SPACES PER 1,000 SF LONG TERM / .50 SPACES PER 1,000 SF

8.72 x .30 = 3 BIKE SPACES + 8.72 x .50 = 4 BIKE SPACES (7 TOTAL) (20 SPACES PROVIDED)

5.3.19. REDUCED HEIGHT BUFFER

When two different maximum height limits are specified for the same zoning district in any Table of Dimensional and Density Regulations in this Section 5, the lower limit shall apply to any lot or part of a lot located in a height buffer area unless it is determined as a specific finding of a special permit that the properties in the adjacent R0, R1, R2, or OS district would not be adversely affected due to existing use or topographic condition. A height buffer area is defined as a lot or part of a lot which is located at a lesser distance from any land, not within a public way, in an R0, R1, R2 or OS district than the following:

Land in R0, R1, R2, OS is located	Lower height shall apply
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

(SEE SHEET A-020.1 FOR LOCUS OF PROPOSED DEVELOPMENT IN RELATION TO (R) PROPERTIES)

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
NO. 9412
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	As indicated

REVISIONS

No.	Description	Date

Architectural Site Plan

A-020

10 SUNNYSIDE AVE

2/25/2021 10:08:13 AM \\TKG-SERVER\Data\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt

B2-A ZONE: MAJOR BUSINESS

R-1 ZONE: SINGLE FAMILY

R-2 ZONE: TWO FAMILY

R-5 ZONE: APARTMENTS LOW DENSITY



1 LOCUS
1/4" = 1'-0"

PROJECT LOCATION
10 SUNNYSIDE AVENUE

B4 ZONE: VEHICULAR ORIENTED BUSINESS

10 SUNNYSIDE IS LOCATED APPROXIMATELY 165'-0" TO THE BEGINNING OF THE R-1 ZONE ON MICHAEL STREET LOOKING NORTH (DENOTED WITH WHITE LINE & ARROW)

10 SUNNYSIDE IS LOCATED APPROXIMATELY 252'-0" TO THE BEGINNING OF THE R-2 ZONE ON SUNNYSIDE AVENUE LOOKING NORTHEAST (DENOTED WITH YELLOW LINE & ARROW)

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT — KAT SIROIS KHALSA — No. 3 — CAMBRIDGE MA — COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

Site Locus & Zoning

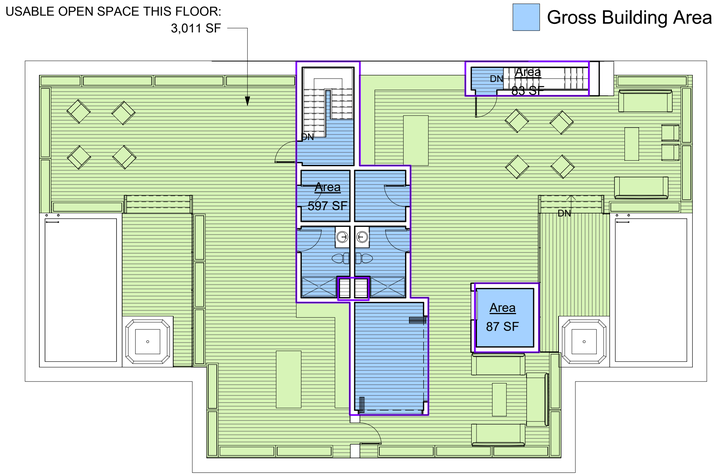
A-020.1

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
2/25/2021 10:09:13 AM

Building Area Legend

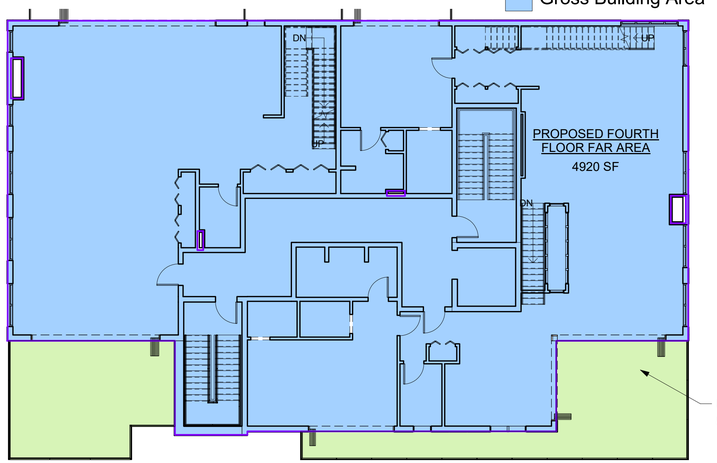
Gross Building Area



5 - Residential Roof Deck Level
1" = 10'-0"

Building Area Legend

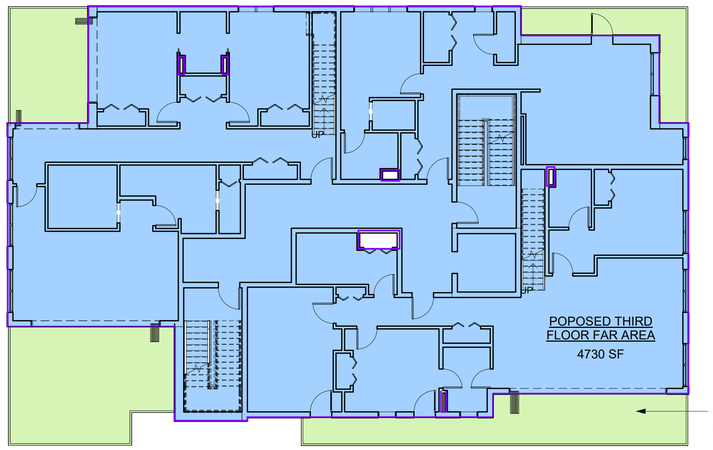
Gross Building Area



4- Residential 4th Floor Level
1" = 10'-0"

Building Area Legend

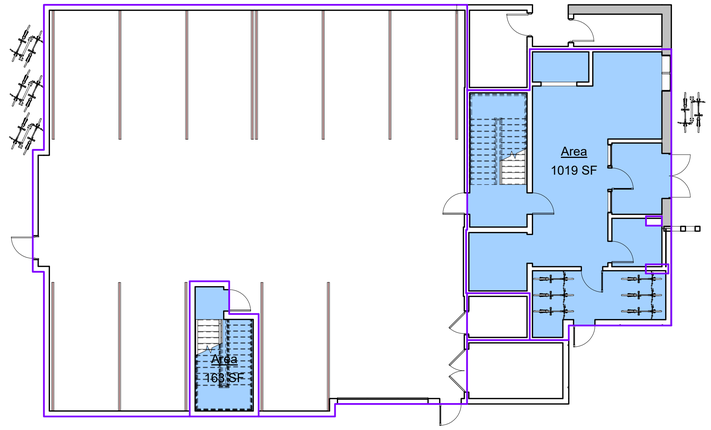
Gross Building Area



3 - Residential 3rd Floor Level
1" = 10'-0"

Building Area Legend

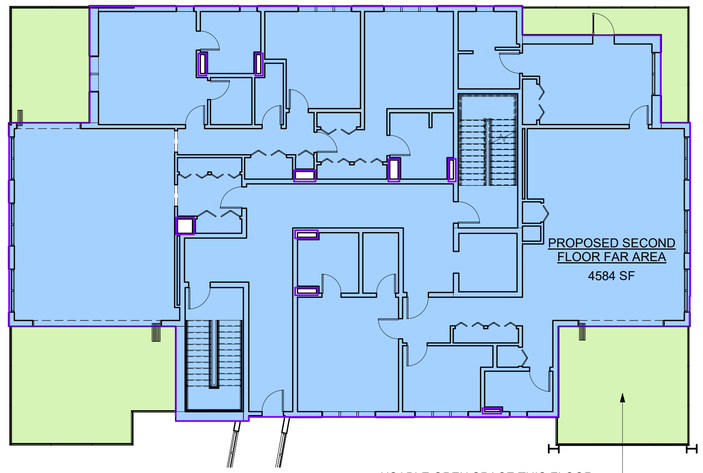
Gross Building Area



1 FIRST FLOOR
1" = 10'-0"

Building Area Legend

Gross Building Area



2 - Residential 2nd Floor Level
1" = 10'-0"

TOTAL BUILDING GROSS SF = 16,183 SF

TOTAL USABLE OPEN SPACE = 5,784 SF

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
JAY FINCH KHALSA
No. 44943
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1" = 10'-0"

REVISIONS

No.	Description	Date

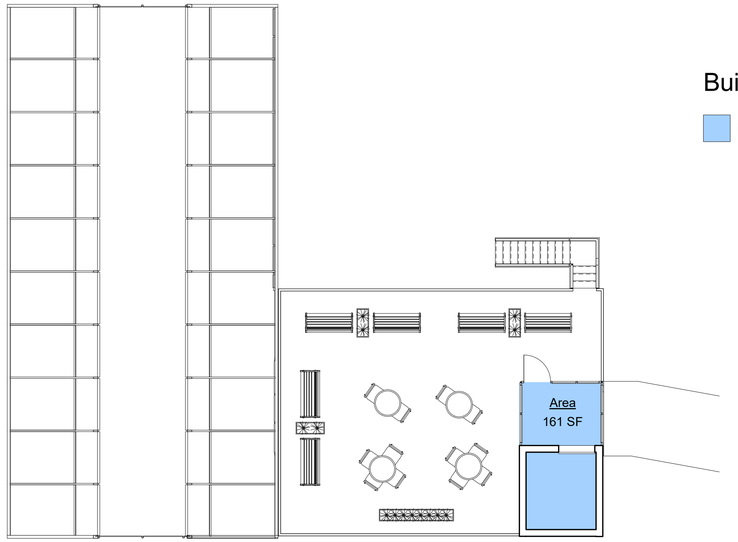
Apartments Gross Area Plan

A-021

10 SUNNYSIDE AVE

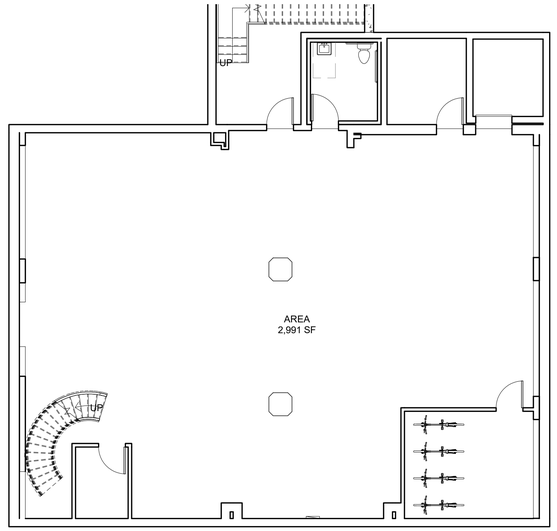
\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt

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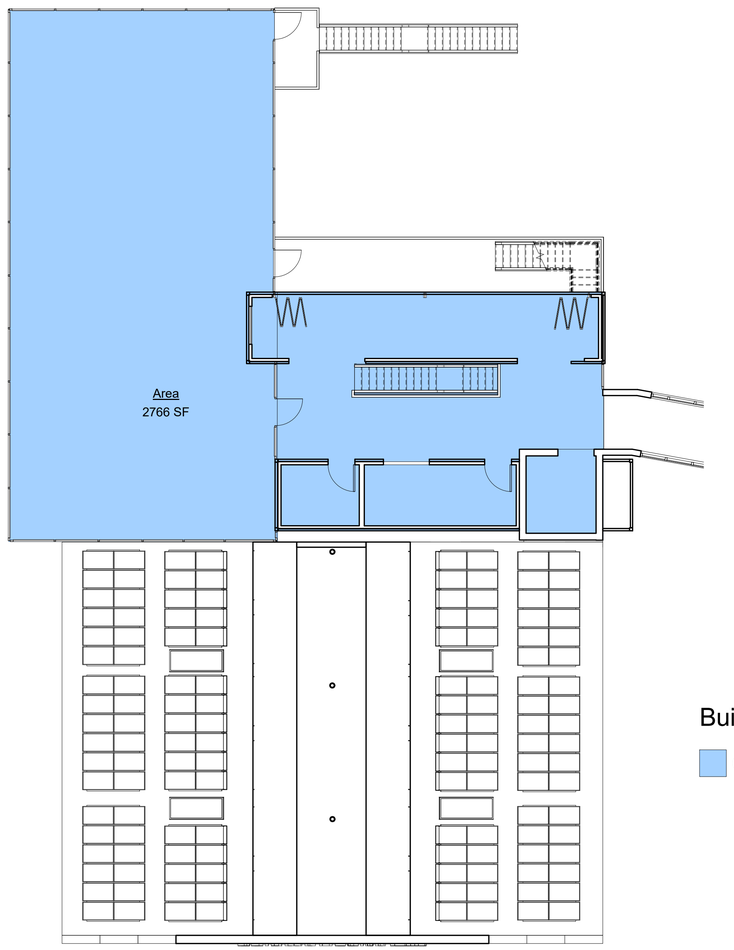


Building Area Legend

Gross Building Area



4 Roof Deck Level
1/8" = 1'-0"

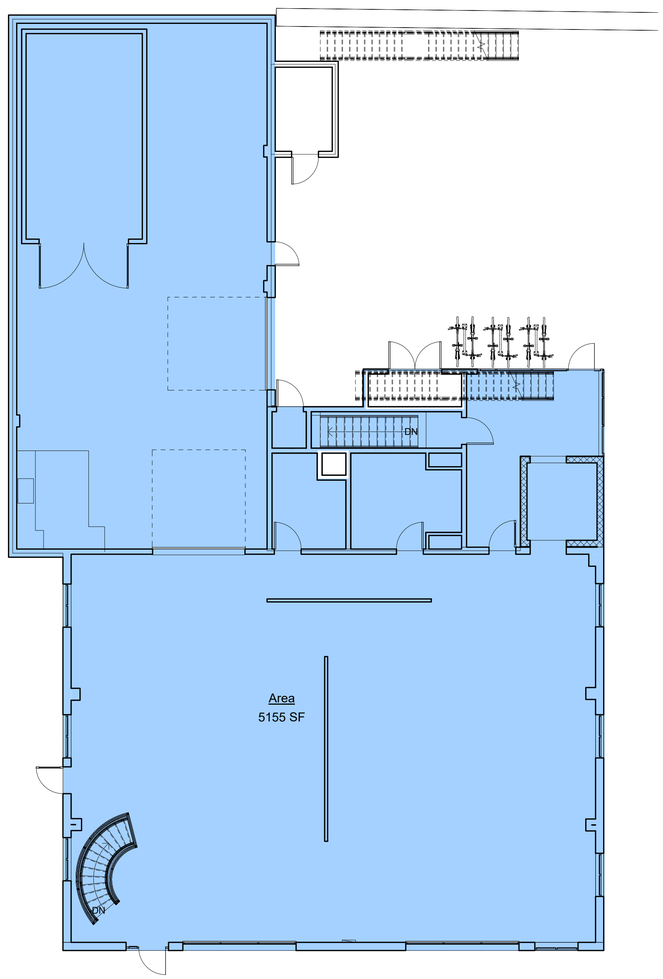


Building Area Legend

Gross Building Area

3 G.H./CAFE LEVEL
1/8" = 1'-0"

1 Basement Level
1/8" = 1'-0"



Building Area Legend

Gross Building Area

TOTAL BUILDING GROSS SF = 8,082 SF

2 1st Floor Level
1/8" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
COMMONWEALTH OF MASSACHUSETTS
NO. 9999
CAMBRIDGE MA

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/8" = 1'-0"

REVISIONS

No.	Description	Date

Offices Gross Area Plan

A-022

10 SUNNYSIDE AVE

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1 - Residential 1st Floor Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
MARYANN BELL KHALSA
NO. 6643
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

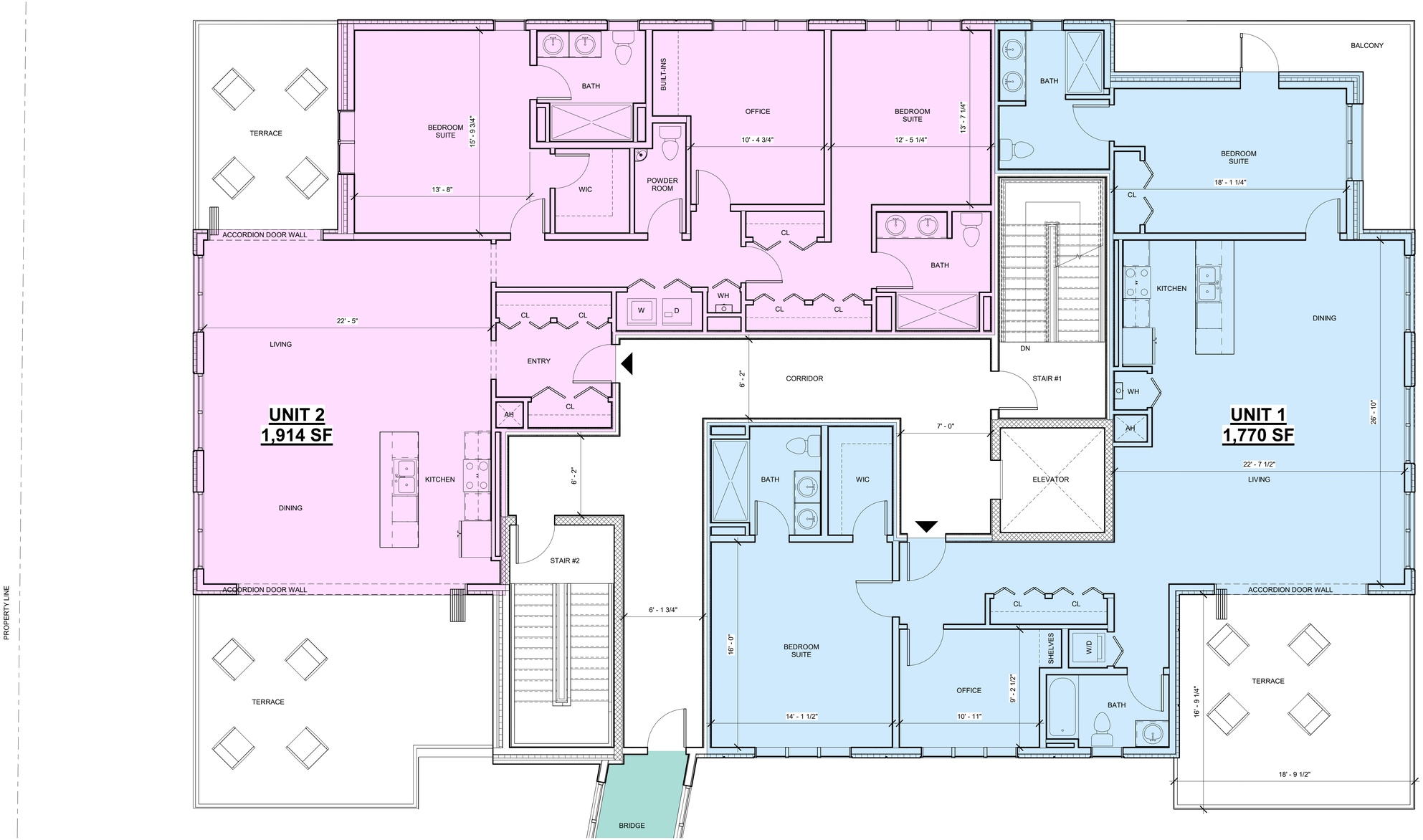
No.	Description	Date

Residential - First Floor Plan

A-101

10 SUNNYSIDE AVE

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1 2 - Residential 2nd Floor Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
NO. 31903
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

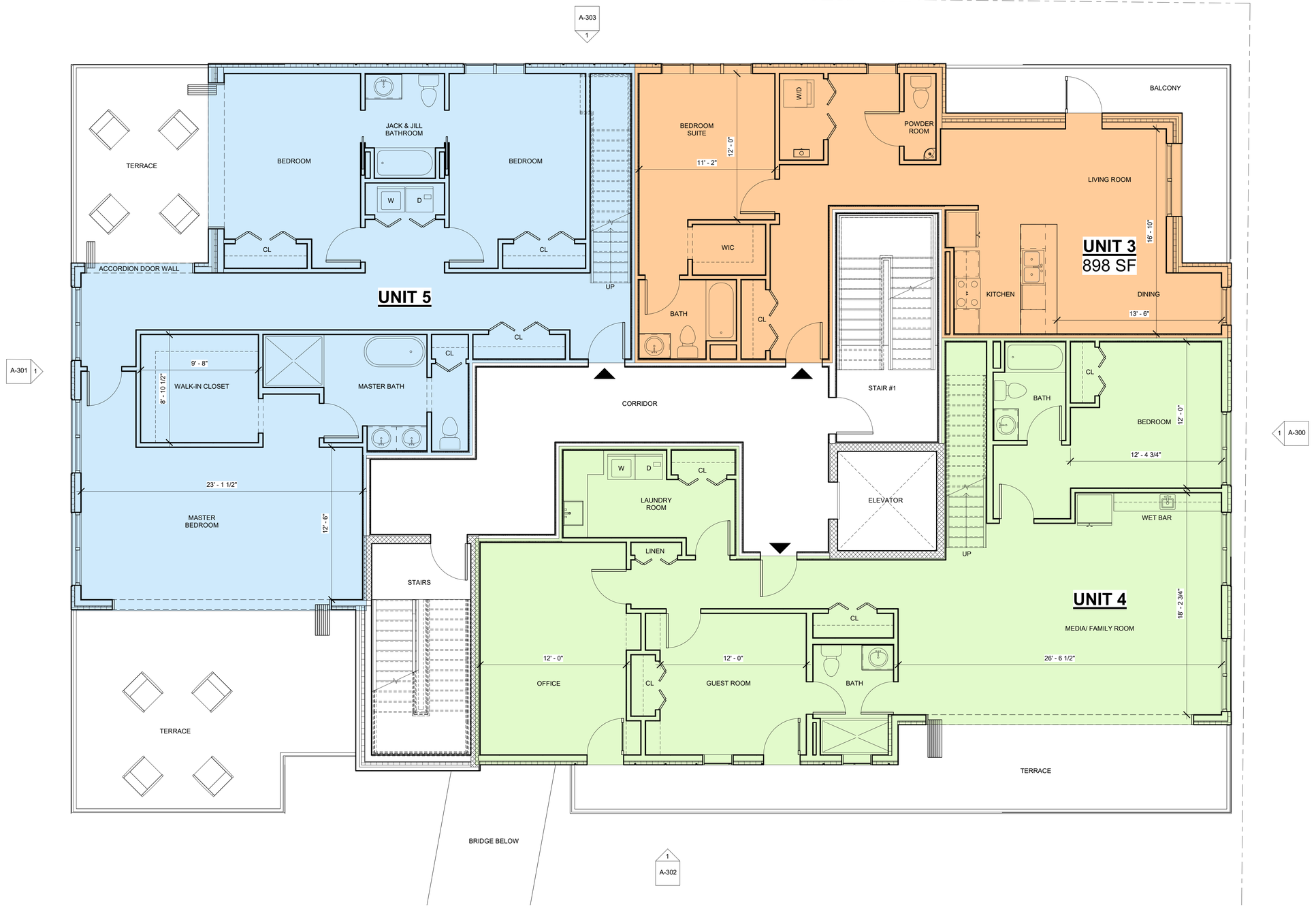
No.	Description	Date

Residential - Second Floor Plan

A-102

10 SUNNYSIDE AVE

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1 3 - Residential 3rd Floor Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT JAY SURESH KHALSA No. 9413 CAMBRIDGE MA COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

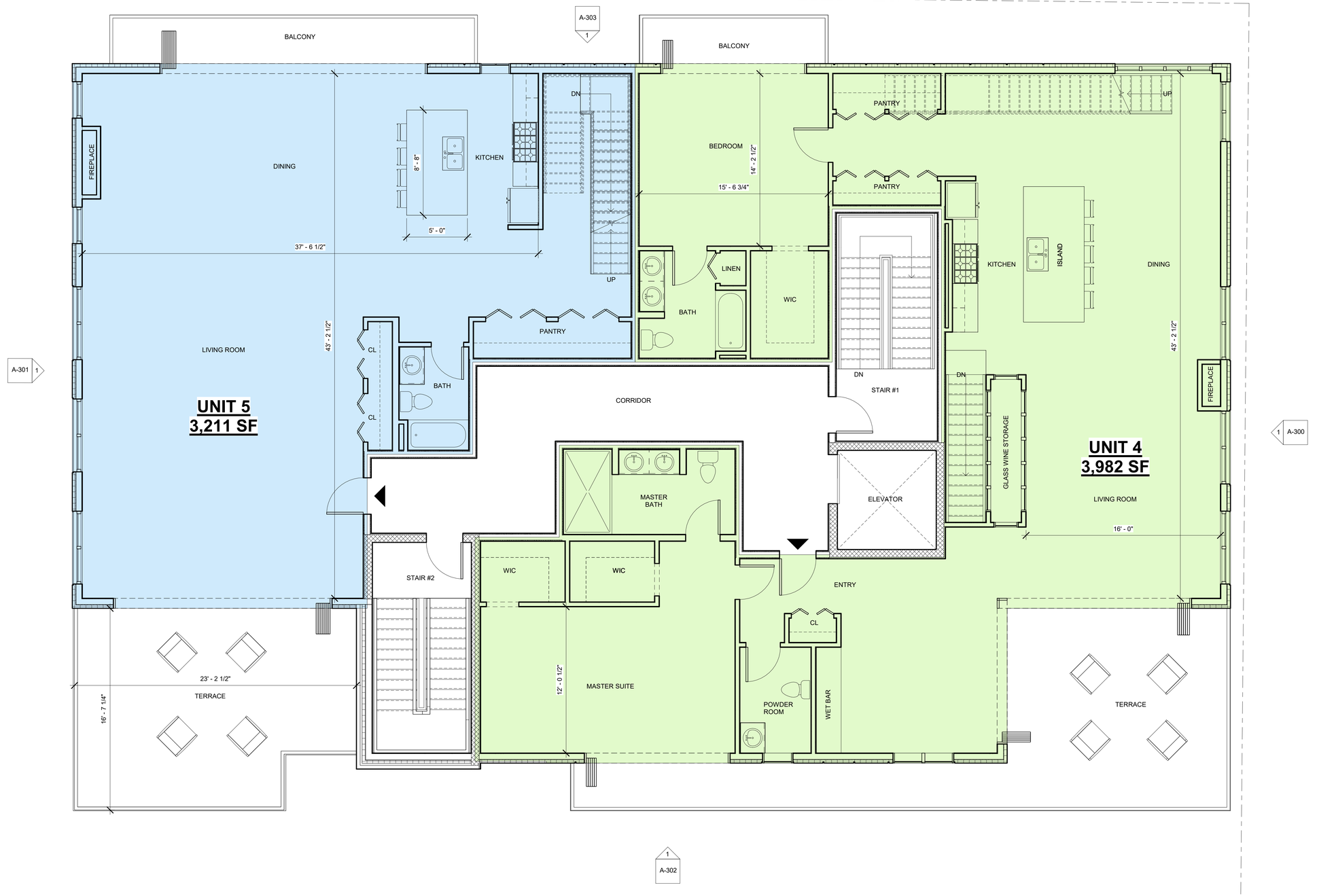
Residential - Third Floor Plan

A-103

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt

2/25/2021 10:10:01 AM



1 4- Residential 4th Floor Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
JASMINDER KHALSA
NO. 5813
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

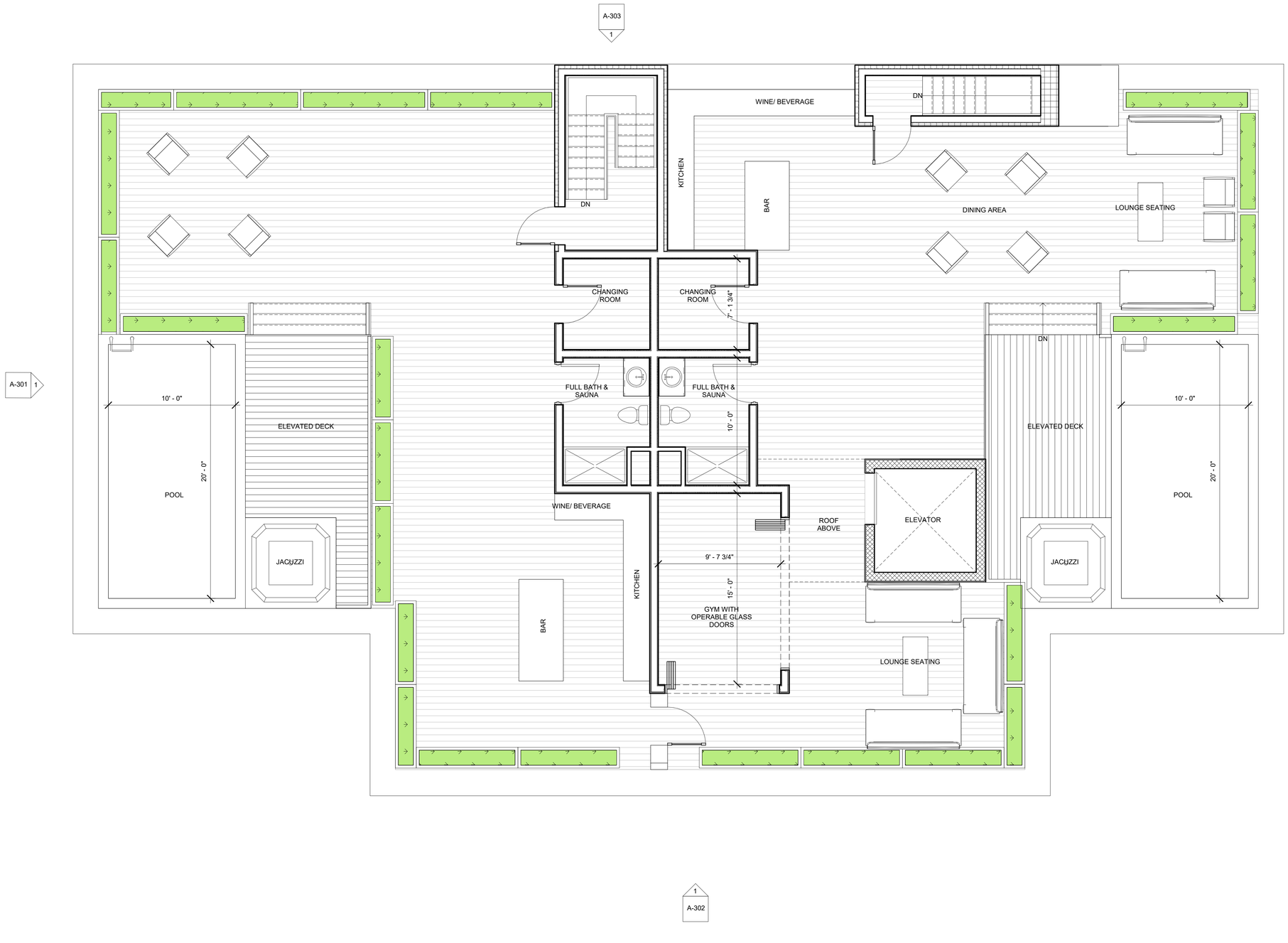
No.	Description	Date

Residential - Fourth Floor Plan

A-104

10 SUNNYSIDE AVE

2/25/2021 10:10:05 AM \\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



1 5 - Residential Roof Deck Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
JASVINDER KHALSA
No. 6643
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

Residential - Roof Deck Floor Plan

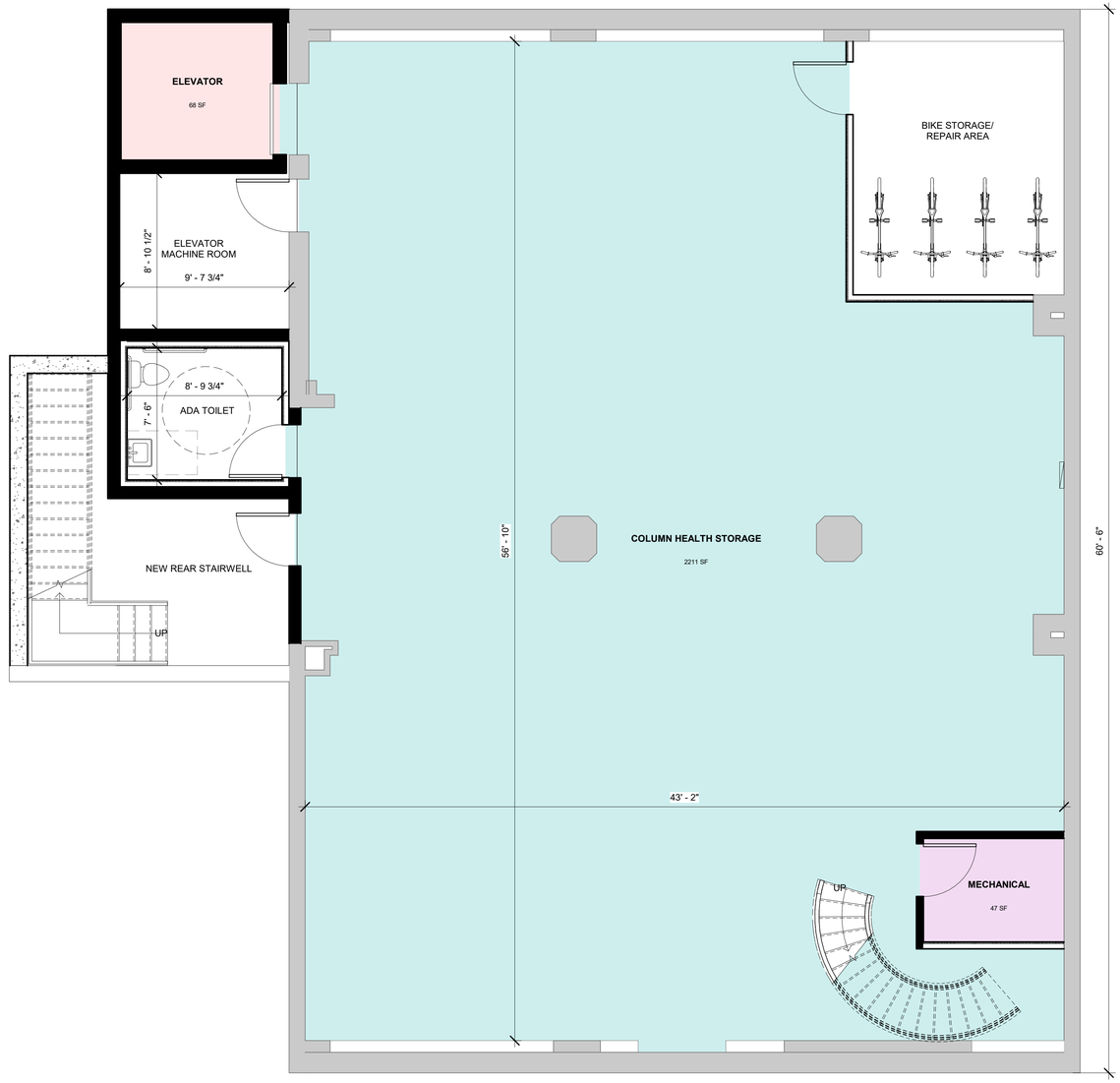
A-105

10 SUNNYSIDE AVE

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2/25/2021 10:10:08 AM

WALL TYPE
EXISTING WALL
PROPOSED WALL



1 Proposed Basement Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
WILLIAM CHRISTENSEN
No. 9443
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

Commercial - Basement Floor Plan

A-106

10 SUNNYSIDE AVE

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2/25/2021 10:10:11 AM

RESIDENTIAL BUILDING

ASPHALT DRIVEWAY

CORTEN PANEL RETAINING WALL

18' - 4"

A-305 2

UP

ELEVATOR
68 SF

LOBBY
209 SF

43' - 5"

GLASS OVERHEAD DOOR

OFFICE SPACE
2530 SF

STEAM SHOWER

DN

MECHANICAL
38 SF

BATHROOM
118 SF

5' - 0"

LIVING PLANT WALL

58' - 8"

BATHROOM
79 SF

8' - 3"

10' - 8 3/4"

DOG WASHING STATION

MAINTENANCE SHED

OVERHEAD DOOR

OVERHEAD DOOR

13' - 5 1/2"

23' - 0"

28' - 0"

CONFERENCE ROOM
299 SF

13' - 0"

REAR OFFICE SPACE
1223 SF

KITCHEN
93 SF

DW

LIVING PLANT WALL

NEW SIDEWALK

1 A-304

SUNNYSIDE AVE

GLASS OVERHEAD DOOR

EXISTING ENTRANCE TO REMAIN
(NOT ADA ACCESSIBLE)

NEW ACCESSIBLE ENTRANCE

DN

FIREPLACE

SLOPED WALK 3.5%

NEW GREEN SPACE

1 A-305

A-304 2

1 A-311

1 Office - 1st Floor Level
1/4" = 1'-0"

WALL TYPE

- EXISTING WALL
- PROPOSED WALL

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
MASSACHUSETTS
No. 31
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

Commercial - First Floor Plan

A-107

10 SUNNYSIDE AVE

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1 Green House / Cafe Level
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT MARYBETH BEATTY KHALSA NO. 9443 CAMBRIDGE MA COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

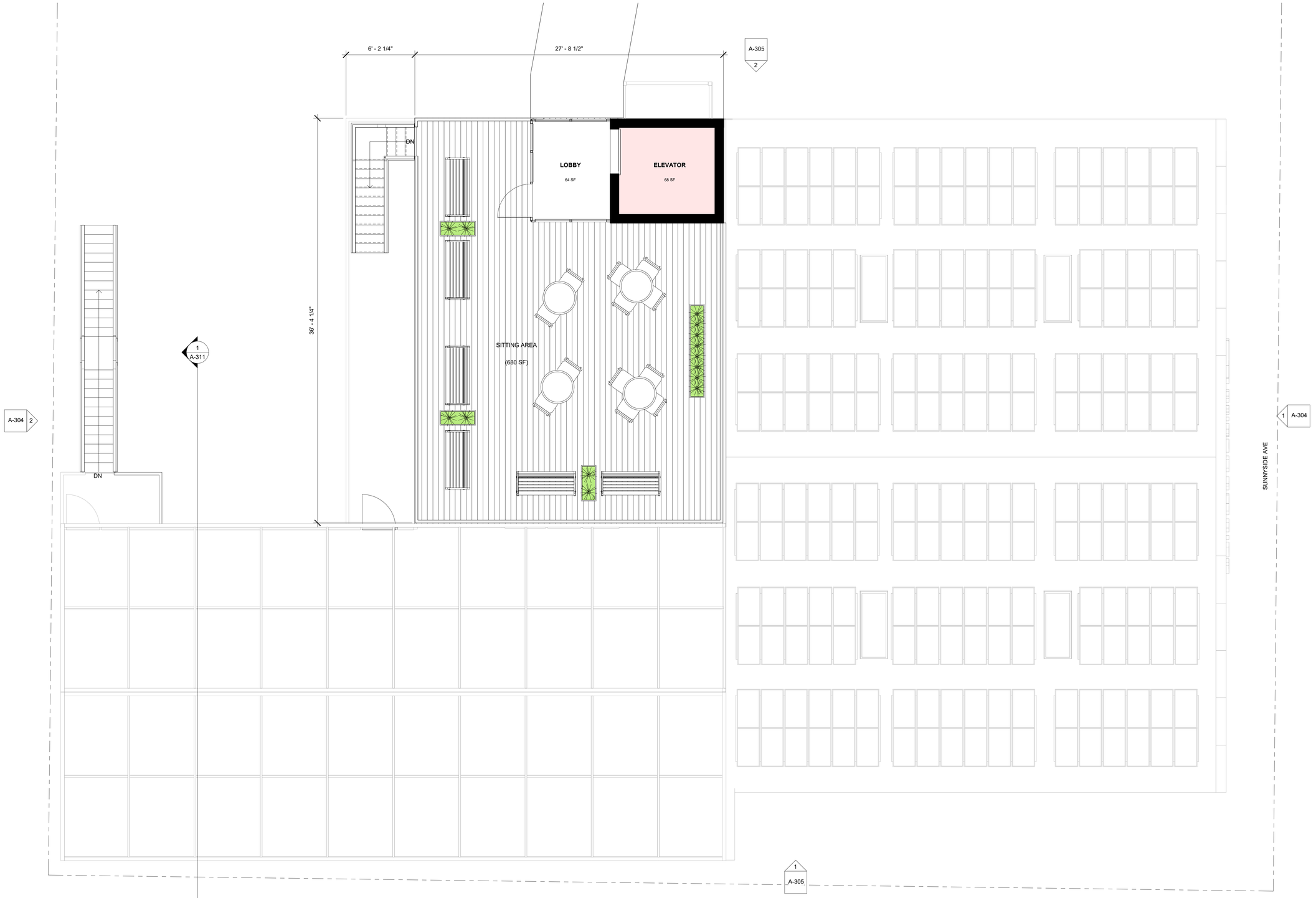
No.	Description	Date

Commercial - Green House / Cafe Floor Plan

A-109

10 SUNNYSIDE AVE

2/25/2021 10:10:23 AM
\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



1 Proposed Roof Deck Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

KHALSA DESIGN

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

CONSULTANTS:

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REGISTRATION

REGISTERED ARCHITECT
MASSACHUSETTS
No. 6513
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

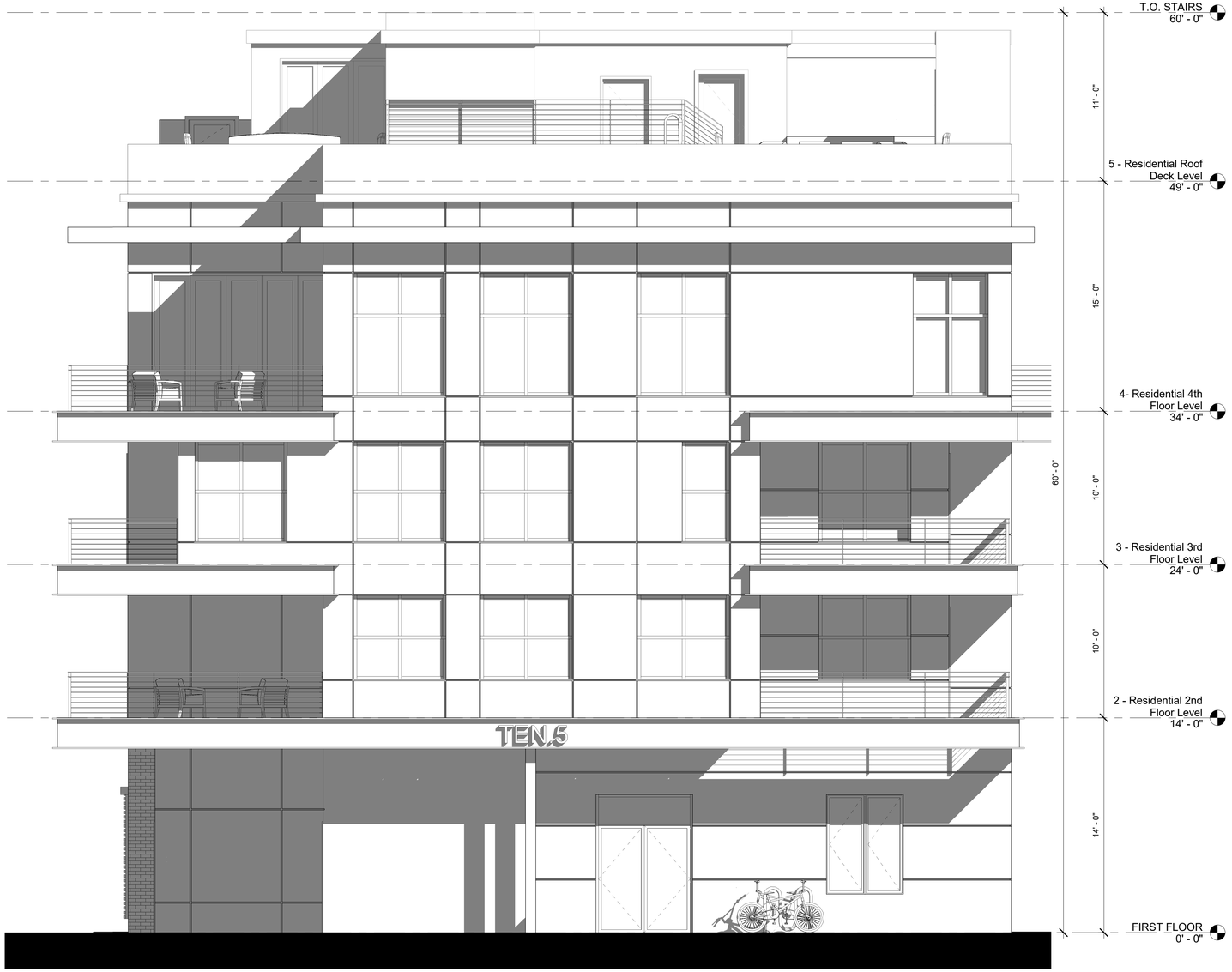
No.	Description	Date

Commercial - Roof Deck Floor Plan

A-110

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
2/25/2021 10:10:26 AM



1 Elevation - Front
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT — MATTHEW KHALSA — No. [redacted] — CAMBRIDGE MA — COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

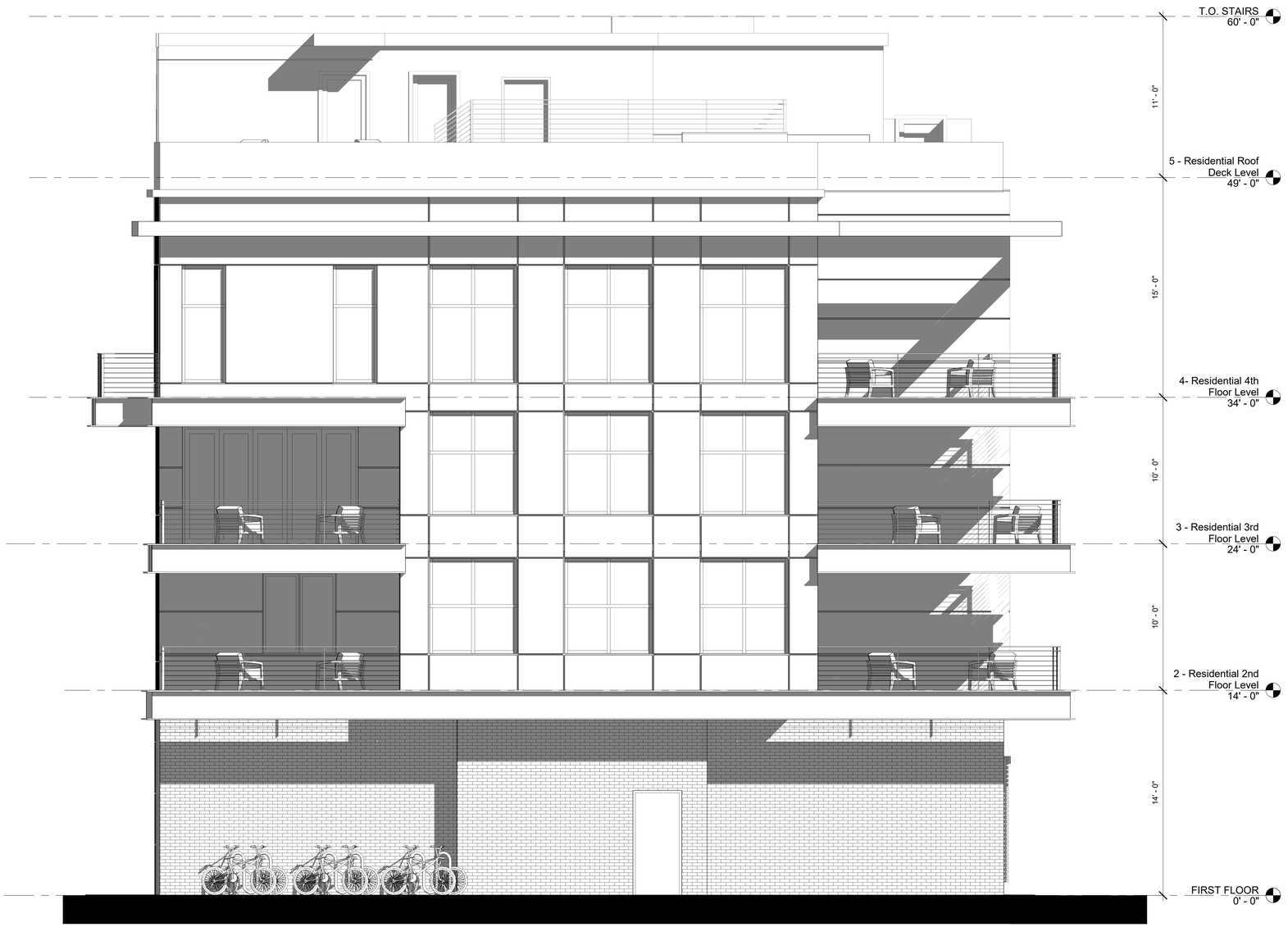
No.	Description	Date

Residential -Front Elevation

A-300

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
2/25/2021 10:10:32 AM



1 Elevation - Rear
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

KHALSA DESIGN

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
MASSACHUSETTS
NO. 6042
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

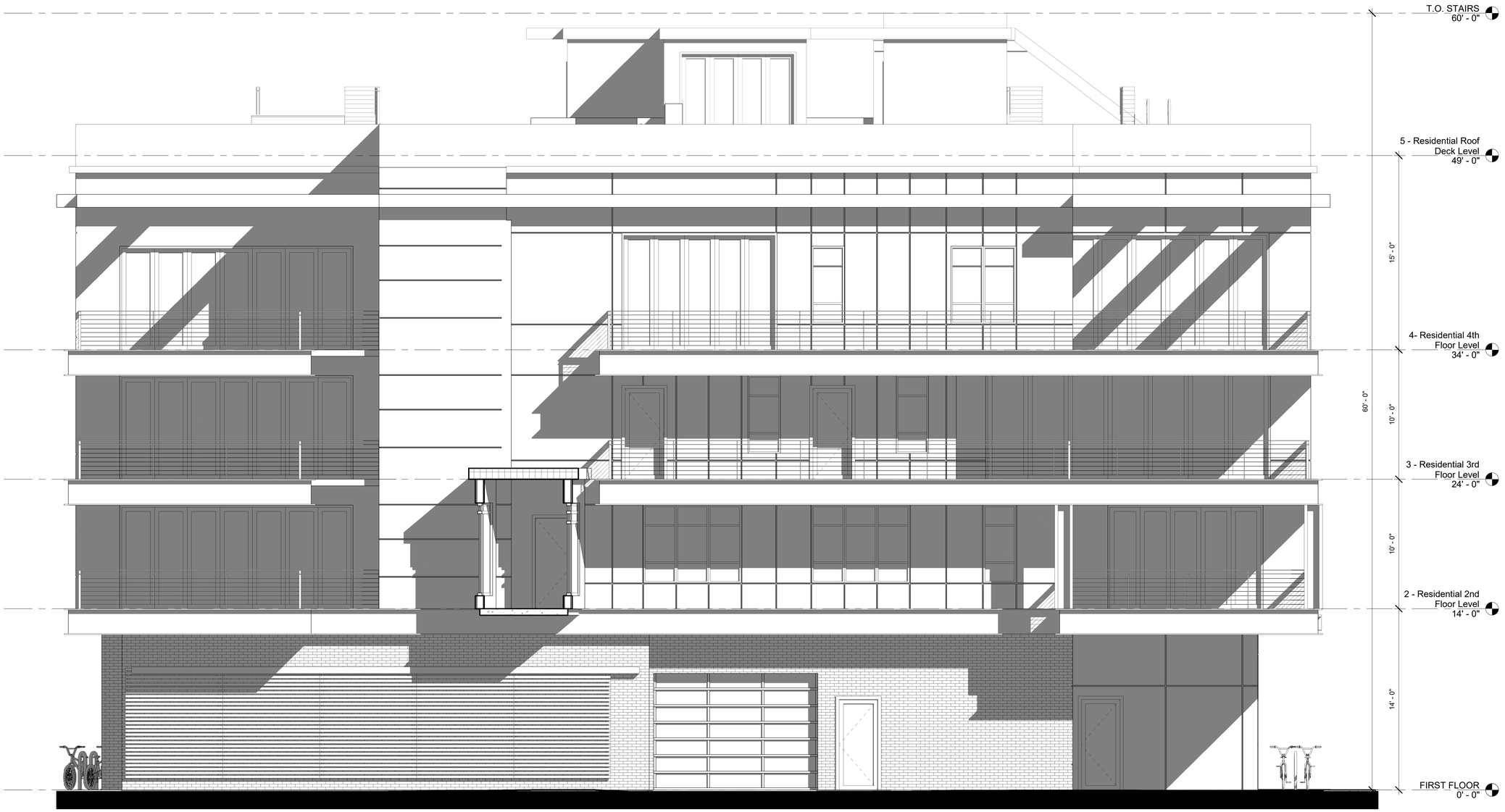
No.	Description	Date

Residential - Rear Elevation

A-301

10 SUNNYSIDE AVE

2/25/2021 10:10:40 AM \\TKG-SERVER\Data\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt



1 Elevation - Left Side
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
KAM PUREWAL
NO. 9583
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

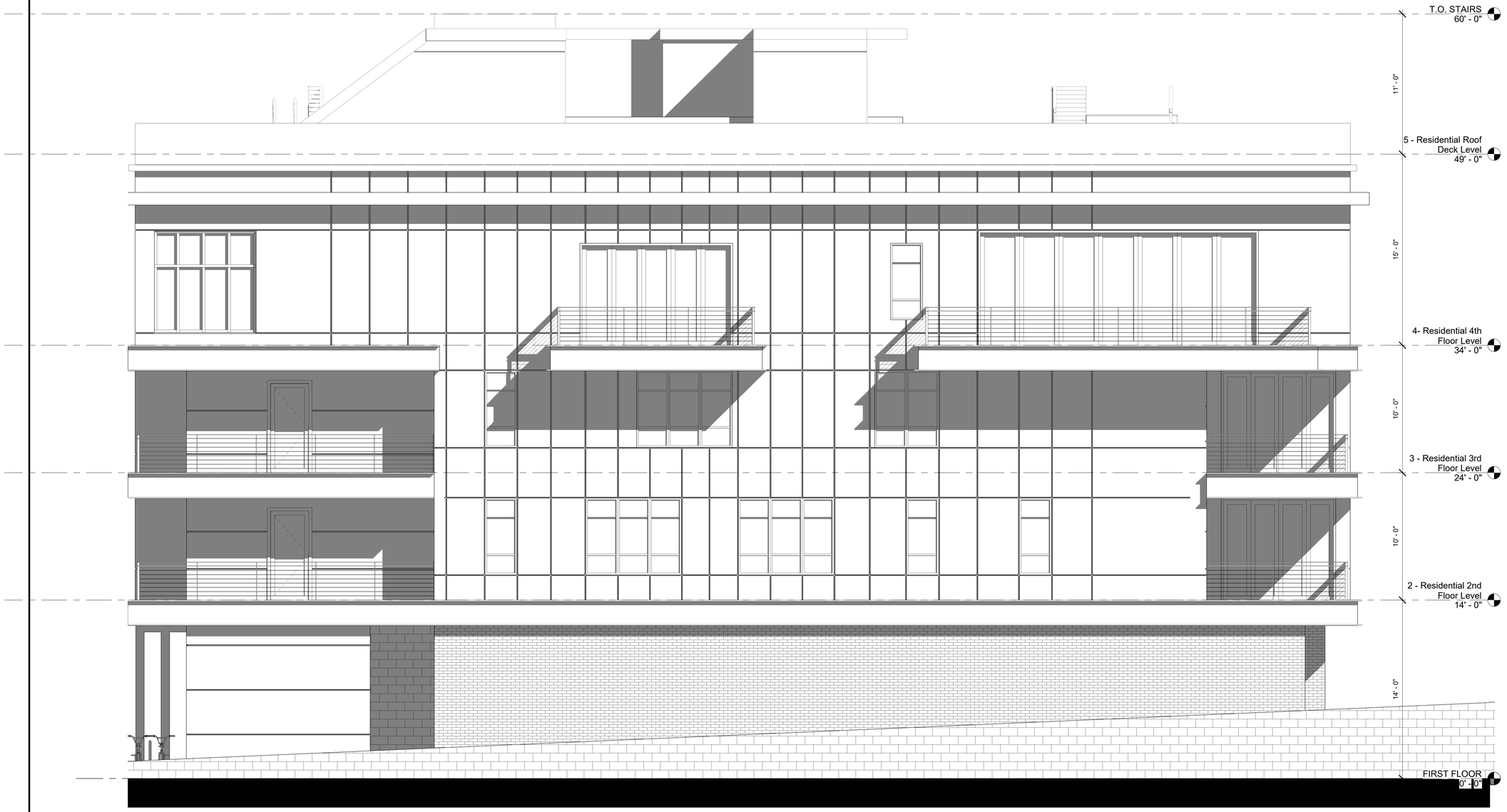
No.	Description	Date

Residential - Left Side Elevation

A-302

10 SUNNYSIDE AVE

\\TKG-SERVER\Data\19\19119_10 Sunnyside Arlington - Beatty Column Health\03 Drawings\00_ARCH_SD_DD\10 Sunnyside Ave SD Condo - OPTION 6.rvt
2/25/2021 10:10:48 AM



1 Elevation - Right Side
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
KHALSA
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
COMMONWEALTH OF MASSACHUSETTS
CAMBRIDGE MA

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

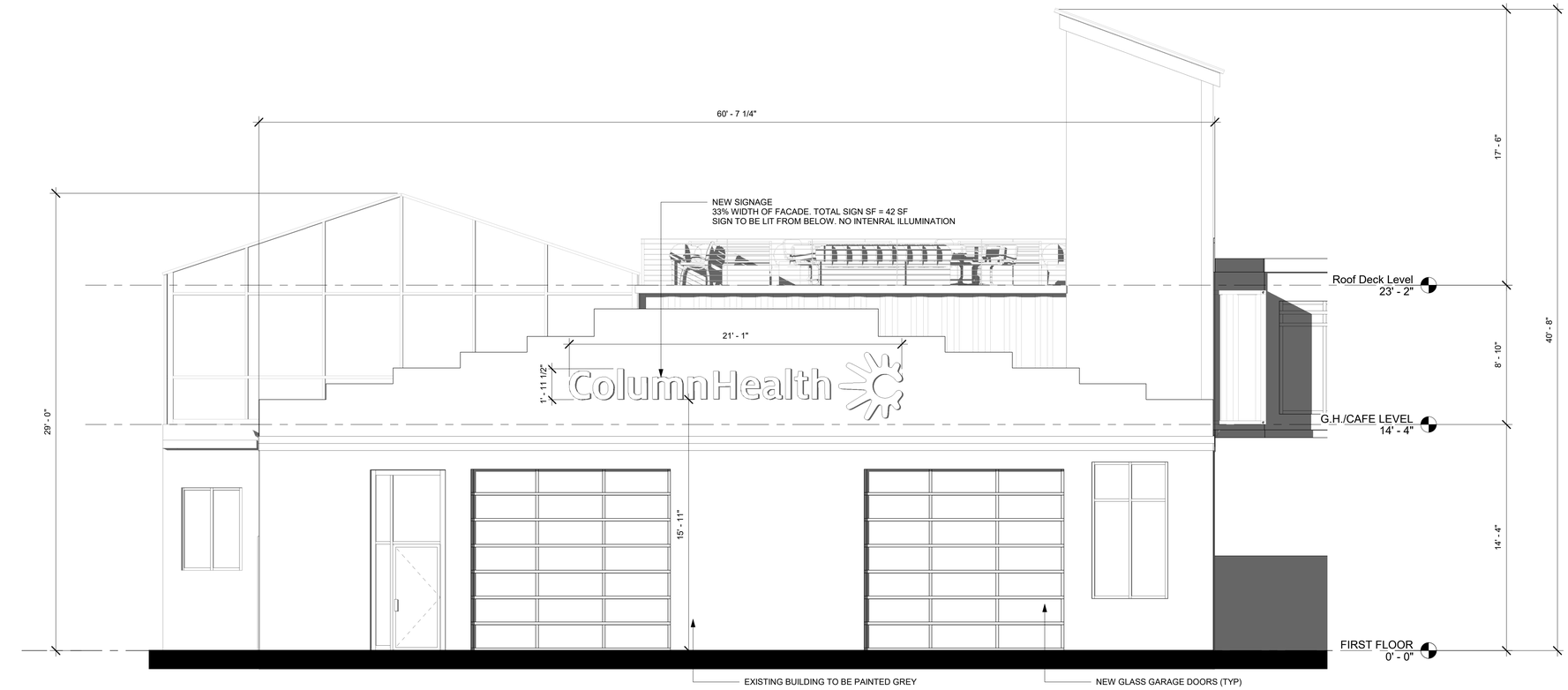
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Residential - Right Side Elevation

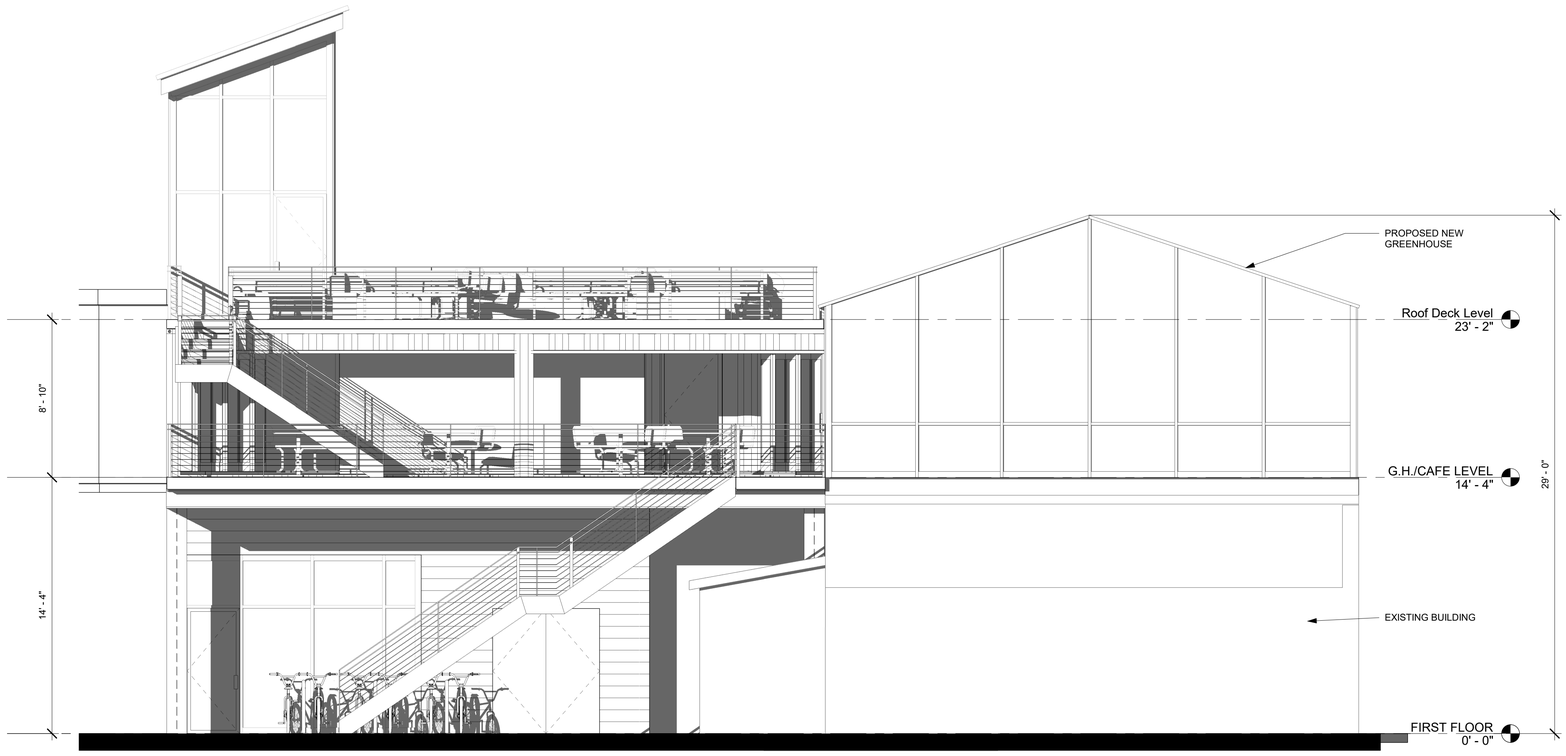
A-303

10 SUNNYSIDE AVE

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1 Front Elevation
1/4" = 1'-0"



2 Rear Elevation
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

KHALSA DESIGN
17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
KRISHNA KHALSA
No. 6513
CAMBRIDGE MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
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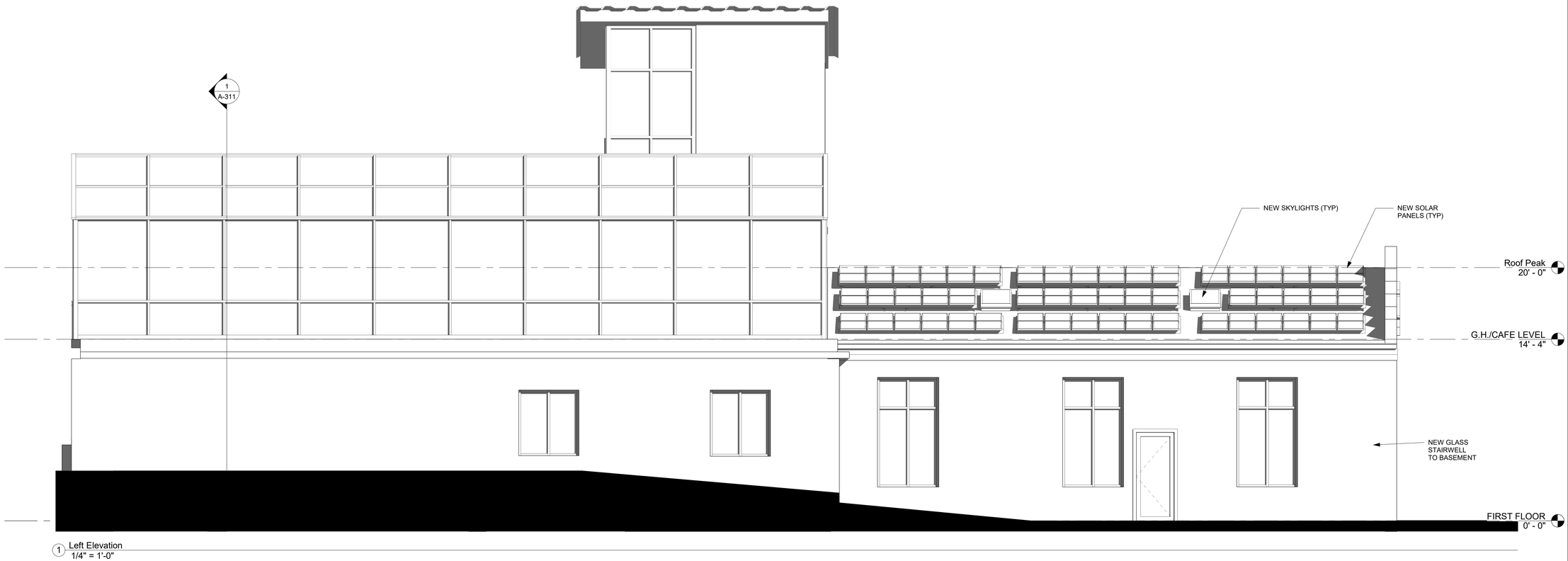
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Commercial - Front & Rear Elevations

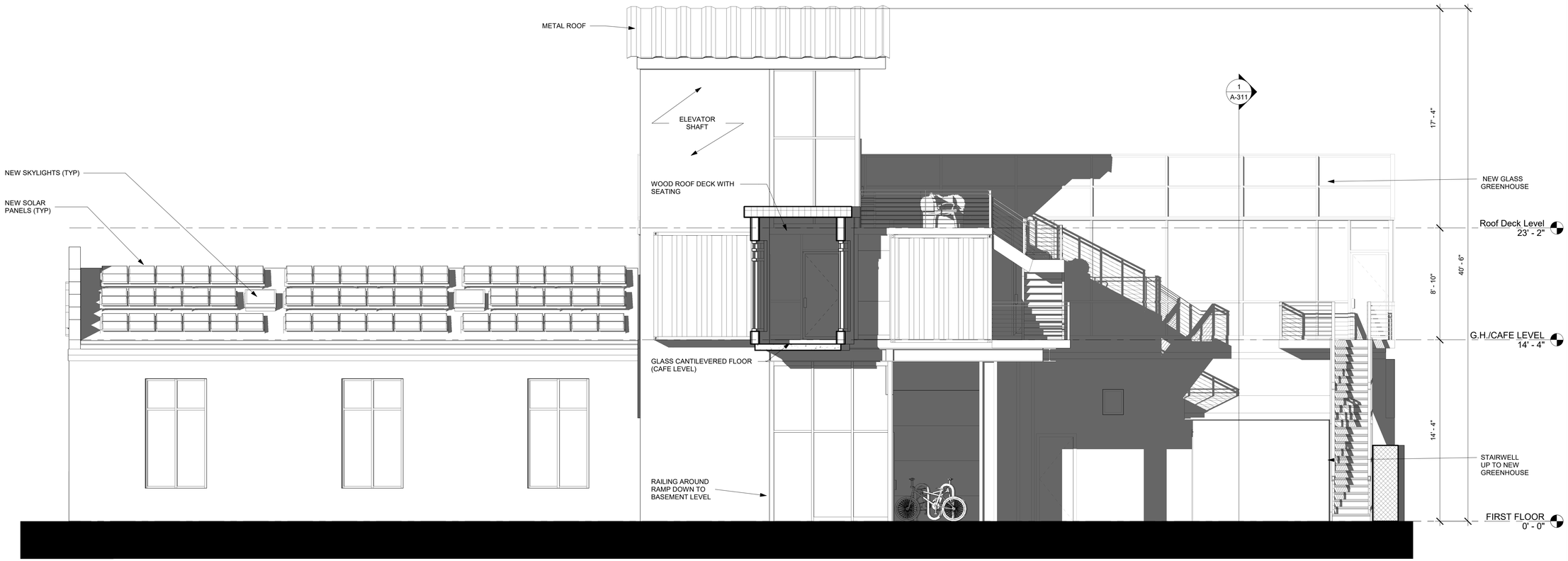
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10 SUNNYSIDE AVE

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1 Left Elevation
1/4" = 1'-0"



2 Right Elevation
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN
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REGISTRATION

REGISTERED ARCHITECT
COMMONWEALTH OF MASSACHUSETTS
NO. [redacted]
CAMBRIDGE
MA

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

REVISIONS

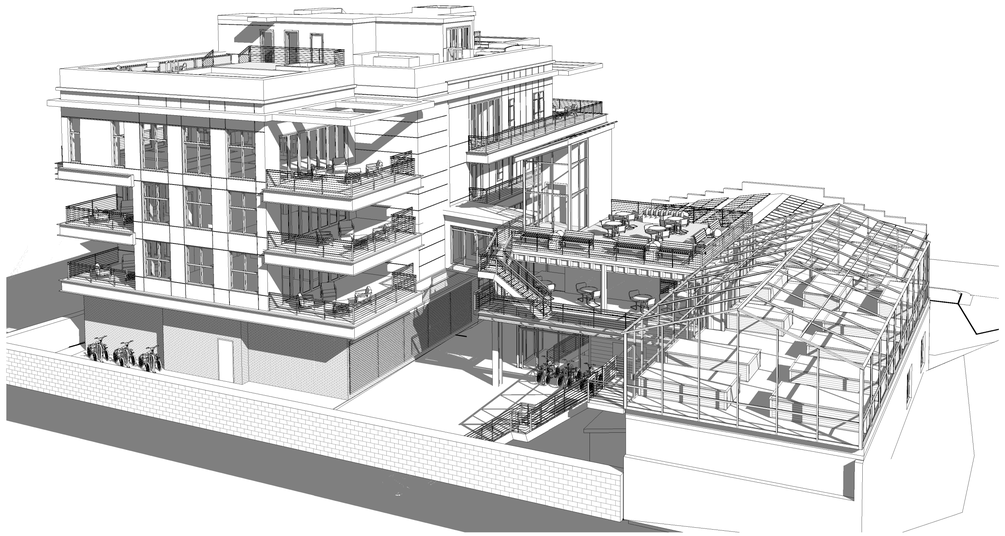
No.	Description	Date

Commercial - Left & Right Elevations

A-305

10 SUNNYSIDE AVE

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3 Rear Aerial View #1



1 Perspective #1



4 Street View



2 Perspective #2

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

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REGISTRATION

REGISTERED ARCHITECT
WILLIAM KHALSA
No. 9455
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	

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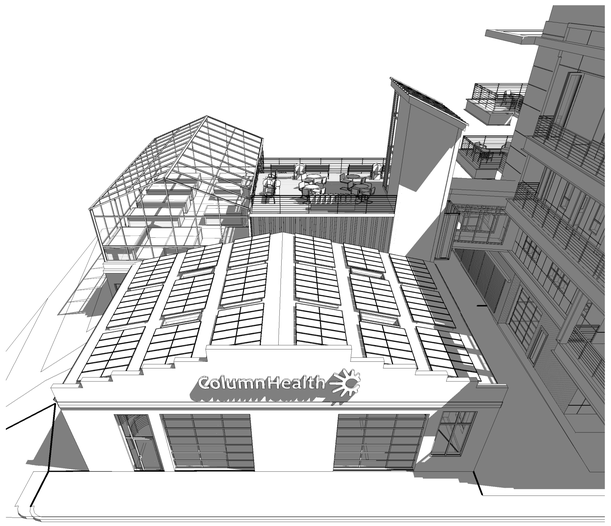
No.	Description	Date

Perspectives #1

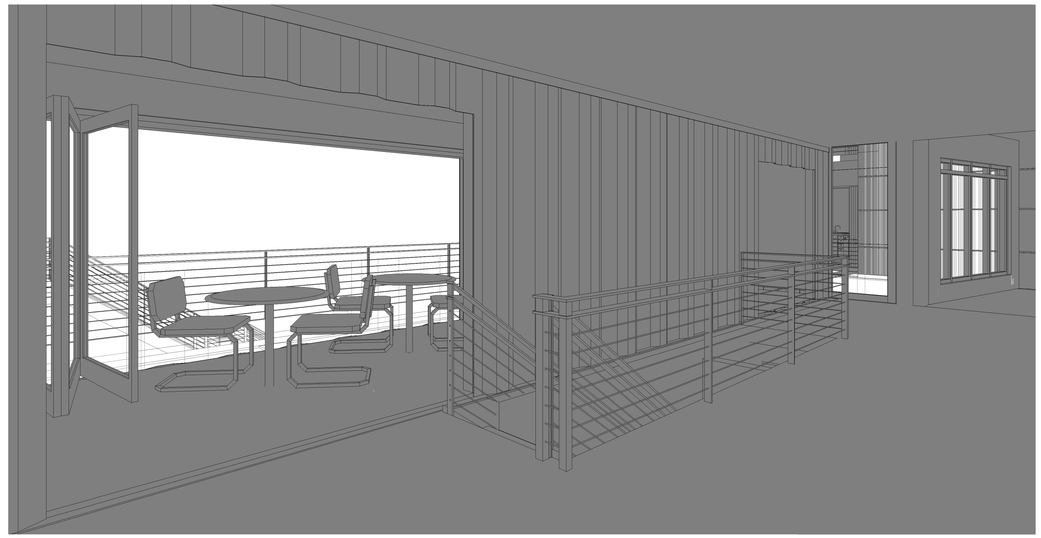
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10 SUNNYSIDE AVE

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1 FRONT AERIAL PERSPECTIVE



2 CAFE LOUNGE VIEW



3 GREENHOUSE VIEW



4 REAR VIEW

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

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REGISTRATION

REGISTERED ARCHITECT
WILLIAM T. KHALSA
NO. 6045
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
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Checked by	WC
Scale	

REVISIONS

No.	Description	Date

Perspectives #2

A-307

10 SUNNYSIDE AVE

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2/25/2021 10:11:39 AM



PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

KHALSA DESIGN

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX: 617-591-2086

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REGISTRATION

REGISTERED ARCHITECT
NATASHA KHALSA
No. 9402
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
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REVISIONS

No.	Description	Date

Realistic Rendering

A-308

10 SUNNYSIDE AVE

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PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
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REGISTRATION

REGISTERED ARCHITECT
JAY SINGH KHALSA
No. 6883
CAMBRIDGE
MA
COMMONWEALTH OF MASSACHUSETTS

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	

REVISIONS

No.	Description	Date

Realistic Rendering

A-309

10 SUNNYSIDE AVE

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PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT

DESIGN
KHALSA

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REGISTRATION

REGISTERED ARCHITECT
COMMONWEALTH OF MASSACHUSETTS
NO. [redacted]
CAMBRIDGE
MA

Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	

REVISIONS

No.	Description	Date

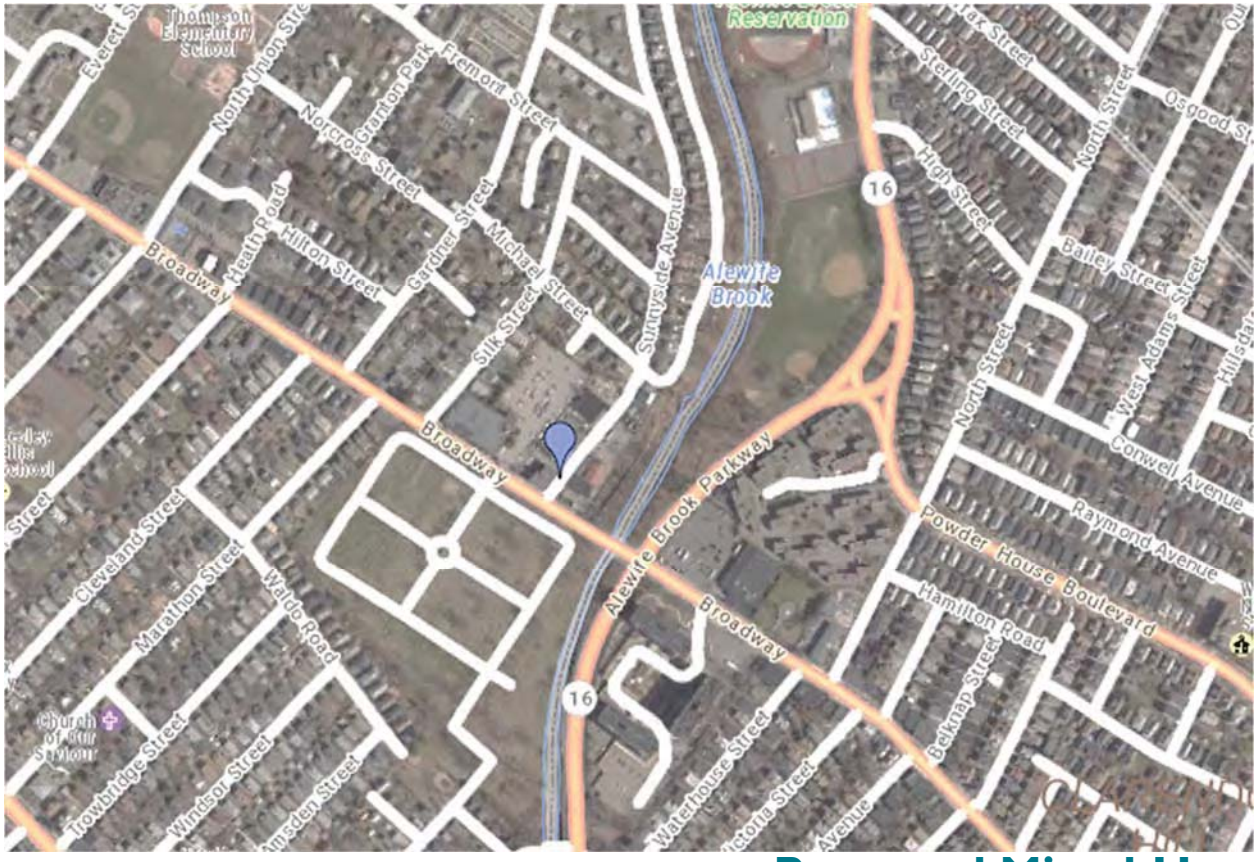
Realistic Perspectives

A-310

10 SUNNYSIDE AVE

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STORMWATER MANAGEMENT REPORT



Proposed Mixed-Use Redevelopment

10 Sunnyside Avenue
Arlington, Massachusetts 02474

COMMONWEALTH OF MASSACHUSETTS
MICHAEL F. CLARK
CIVIL
No. 34816
REGISTERED PROFESSIONAL ENGINEER

Owner/Applicant:
Column Health LLC
339 Massachusetts Ave
Arlington, MA 02474
Phone: (617) 539-6780

Project Number: 1620000049
Submitted: November 17, 2020

EBI Consulting
environmental | engineering | due diligence

2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: (781) 273-2500
www.ebiconsulting.com

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MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (MASSDEP) STORMWATER MANAGEMENT STANDARDS 7

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FIGURES

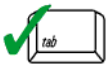
FIGURE 1
Existing Conditions Drainage Areas
FIGURE 2
Proposed Conditions Drainage Areas

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

---

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☒ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☐ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☐ Use of “country drainage” versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☒ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☒ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☒ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☒ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☐ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

STORMWATER MANAGEMENT REPORT NARRATIVE

This Stormwater Management Report has been prepared to demonstrate compliance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards in accordance with the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00) and Water Quality Certification Regulations (314 CMR 9.00). This report also demonstrates compliance with the Town of Arlington Stormwater Management Guidelines

PROJECT DESCRIPTION

The Applicant, Column Health, LLC, is proposing to redevelop an existing parcel of land located at 10 Sunnyside Avenue in Arlington, MA. The Site currently consists of an existing building and a parking lot. The Applicant proposes to redevelop the Site in order to construct two buildings and six surface parking spaces. (the Project). As proposed, the Project consists of a 5,972 square foot (sf) residential building (roof area), a 5,876 sf office building, ancillary parking spaces (15), landscape improvements, and utility and stormwater management improvements to support the redevelopment.

SITE DESCRIPTION

The Site is an approximately 0.38-acre parcel of land located at 10 Sunnyside Avenue in Arlington, Massachusetts and is bounded by vehicle-oriented business properties to the north and east, and major business properties to the south and west (see Exhibit 1). The Site lies within the Alewife Brook Watershed (see Exhibit 2).

The Site is not located within the 100-year flood plain, and is not located within a flood zone, as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Town of Arlington, Map # 25017C0419E, dated June 4, 2010 (see Exhibit 3).

Existing topography within the site ranges from approximately elevation 16 in the west corner to elevation 13 at the eastern property line along Sunnyside Ave. The northwest and northeast sides of the property are bound by a retaining wall, varying in height from one to five feet in height, with the subject site being lower than the abutting properties. Please refer to the Existing Conditions Plan, which is included as part of the Site Plans.

Based on available information and field observations, there are no known wetland resource areas or associated buffers located on the Site.

Test Borings show site soils to be glacial outwash comprised of loose, wet silt to a depth of approximately 25 feet below existing surface. Approximate groundwater elevation is seven feet below existing surface. Based on the geotechnical information, for calculation purposes an HSG of C was used for all subsurface soils. HSG C is classified as having high runoff potential and low infiltration rates.
Please refer to Appendix B for Boring Logs.

HYDROLOGIC ANALYSIS

The hydrologic analysis was performed using the HydroCAD computer program. The HydroCAD model is based on the Natural Resources Conservation Service (NRCS) Technical Release 20 (TR-20) Model for Project Formulation Hydrology. Runoff coefficients for the existing and proposed development conditions, as shown below in Tables 1 and 2 respectively, were determined using NRCS Technical Release 55 (TR-55) methodology as provided in HydroCAD. Rainfall volumes used for this analysis are based on the NRCS Type III, 24-hour storm event for Norfolk and Suffolk Counties.

Existing Conditions

Under existing conditions, the Site is slopes gently to the east towards Sunnyside Avenue. The surface consists of the existing building, pavement, and some landscape area. Runoff from the existing Site flows overland toward Sunnyside Avenue where it is collected within the municipal sewer system. Figure 1 illustrates the existing drainage patterns on the Site.

Currently, the Site is one (1) drainage area and stormwater runoff flows to one (1) design point, which has been identified as the 8" PVC Sewer Main in Sunnyside Avenue. Descriptions of the existing drainage areas are listed below:

- Drainage Area 1S is a 16,500 square foot area that is comprised of the entire Site. The area includes the building roof, a paved parking area, and landscape. Stormwater runoff from this drainage area flows overland and untreated directly into the catch basins in Sunnyside Ave that connect to the 8" sanitary sewer.

Table 1 below provides a summary of the existing conditions hydrologic data:

Table 1: Existing Conditions Hydrologic Data

Drainage Area	Discharge Location	Design Point	Area (sq.ft.)	Curve Number	Time of Concentration (min.)
EX: 1S	8" Sewer	1	16,500	96	6.0

Proposed Conditions

In the proposed condition, previously untreated runoff from the Site will be directed to new control measures to provide the required water quality treatment. The proposed Site layout will direct runoff to drainage structures within the paved driveway. The Project will result in a decrease in impervious area. Figure 2 illustrates the proposed post construction drainage conditions for the Site.

In the proposed condition, the Site will be divided into three (3) drainage areas that discharge treated stormwater to the one (1) existing design point. Descriptions of the proposed drainage areas are listed below:

- Drainage Area 1S is a 11,728 square foot area including the residential building roof, a portion of the office building roof, the paved driveway, and landscape area. This area is collected by catch basins, or roof drain, and routed through the infiltration trench. Overflow discharges to the 8" sanitary sewer in Sunnyside Ave.
- Drainage Area 2S is a 310 square foot area that represents uncovered permeable paver areas. Pavers are to be set on a stone base capable of capturing and infiltrating the 100 year storm.
- Drainage Area 3S is a 4,462 square foot area that includes a portion of the office building roof, paved and unpaved areas that is not practical to route to the infiltration trench. Runoff from this area flows into a catch basin in Sunnyside Ave that connects to the 8" sanitary sewer.

Table 2 below provides a summary of the proposed conditions hydrologic data:

Table 2: Proposed Conditions Hydrologic Data

Drainage Area	Discharge Location	Design Point	Area (sq.ft.)	Curve Number	Time of Concentration (min.)
PR: 1S	8" Sewer	1	11,728	97	6.0
PR: 2S	8" Sewer	1	310	98	6.0
PR: 3S	8" Sewer	1	4,462	95	6.0

Please refer to Appendix A for detailed printouts of the HydroCAD analysis. Hydrologic results are summarized in the Regulatory Compliance section of this report.

WATER QUALITY

The site is not located in a protect surface or groundwater area. Therefore, the proposed stormwater management system has been designed to treat the ½" Water Quality Volume while meeting the 80% TSS removal standard, to the extent practicable, prior to discharging to the municipal system.

Stormwater runoff from the proposed drive aisle, exterior parking spaces, and a portion of the Office Building roof will be collected in a deep sump catch basin and routed through an infiltration trench (StormTech SC-740). Runoff from the Residential Building roof will be collected and piped directly into the infiltration trench.

Source Control
A comprehensive source control program will be implemented at the Site, which includes routine inspection and maintenance of the stormwater management system. Further discussion of the Site maintenance is included in the Regulatory Compliance section.

Management of Snow and Ice
A private contractor will be hired to remove snow and discard off site.

Water Quality Control Measures
The proposed stormwater management system implements a treatment train of Best Management Practices (BMPs) that has been designed to provide 80% TSS (total suspended solids) removal for stormwater runoff from the proposed parking lots and drive aisles. TSS removal is proposed to be obtained by deep sump, hooded catch basins and infiltration. Calculations for the provided TSS removal are provided in Appendix C.

Stormwater Recharge
Stormwater recharge for the proposed redevelopment is provided through the infiltration of pavement and roof runoff. Runoff from 71% of the site is collected and routed to the infiltration system which is comprised of 4 StormTech SC-740 chambers.

HYDRAULIC ANALYSIS

The onsite closed pipe drainage system has been designed for the 25-year storm event in accordance with the Town of Arlington requirements. The drainage pipes were sized using the direct step method based on Manning's Equation for full-flow capacity and the NRCS TR-20 and TR-55 methodology to determine the corresponding runoff for the 25-year Type III 24-hour storm event for Suffolk County. Calculations for pipe sizing are included in Appendix F.

CONCLUSION

The stormwater management plan presented herein and as shown on the Site Plans has been prepared in accordance with applicable local, state, and federal regulations. The design includes Best Management Practices for maintaining stormwater runoff quality both during and after construction, and is designed to protect downstream and underlying receiving waters from stormwater related impacts. The redevelopment Project will result in an improvement of stormwater runoff quality and quantity.

REGULATORY COMPLIANCE

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (MASSDEP) STORMWATER MANAGEMENT STANDARDS

As demonstrated below, the Project complies with the MassDEP Stormwater Management Standards for a redevelopment project.

Standard 1

No new stormwater conveyances may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

The redevelopment Project has been designed to fully comply with Standard 1.

No new untreated stormwater discharges are proposed under the redevelopment. All proposed stormwater conveyances for the Project will not cause erosion or scour to wetlands or receiving waters.

The Best Management Practices (BMPs) included in the proposed stormwater management system have been designed in accordance with the Massachusetts Stormwater Handbook. Supporting information and computations demonstrating that no new untreated discharges will result from the Project are presented below as part of Standards 4 through 6.

Standard 2

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

The redevelopment Project has been designed to fully comply with Standard 2.

The rainfall-runoff response of the Site under existing and proposed conditions was analyzed for storm events with recurrence intervals of 2, 10, 25, and 100 years, per the Town of Arlington Stormwater Management Regulations. Rainfall volumes used for this analysis were based on the NRCS Type III, 24-hour storm event for Middlesex County; they were 3.16, 4.77, 6.03, and 8.62 inches, respectively. The results of the analysis, as summarized in Table 3 below, indicate that the post-development discharge rates do not exceed the pre-development discharge rates. Due to the reduction in impervious area and proposed infiltration, the post-development discharge rates are less than the pre-development discharge rates for all storm events analyzed.

Table 3: Peak Discharge Rates (cubic feet per second)

Design Point	2-year	10-year	25-year	100-year
1: 8" Sewer Main				
Existing Conditions	1.01	1.55	1.98	2.85
Proposed Conditions	0.97	1.46	1.85	2.67

Additionally, stormwater volumes were analyzed for all storm events to ensure the Project will not cause any downstream flooding impacts. Again, due to the reduction in impervious area and proposed infiltration, the post-development stormwater volumes are less than the pre-development stormwater volumes for all storm events analyzed. Table 4 below summarizes the stormwater volume analysis.

Table 4: Stormwater Volume Analysis (cubic-feet)

Design Point	2-year	10-year	25-year	100-year
1: 8" Sewer Main				
Existing Conditions	3,726	5,918	7,641	11,192
Proposed Conditions	3,372	5,512	7,198	10,674

Please refer to Appendix A for detailed printouts of the HydroCAD analysis.

Standard 3

Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

The redevelopment Project has been designed to fully comply with Standard 3.

Stormwater recharge for the proposed redevelopment is provided through a reduction and conversion of impervious area to landscaping. Additionally, stormwater recharge is provided through a proposed infiltration trench. The Project proposes a net decrease in impervious surfaces on-site of approximately 258 square feet, which is an approximately 1.5% decrease from the existing condition. The decrease in impervious surfaces and the infiltration trench will greatly improve the post-development groundwater recharge from the pre-development condition.

Table 5 below summarizes the surface cover type areas for the Project.

Table 5: Surface Cover Type Areas (square feet)

Surface Cover Type	Existing	Proposed	Delta
Impervious Surfaces			
Building	5,399	11,848	+ 6449
Pavement	8,568	2,975	- 5593
Sidewalk	0	353	+ 353
Gravel	1467	0	- 1,467
Total Impervious	15,434	15,176	- 258
Open Space	1,066	1,324	+ 258

Standard 4

Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;

b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and

c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

The redevelopment Project has been designed to comply with Standard 4 to the extent practical.

The proposed stormwater management system implements a treatment train of BMPs that has been designed to provide 85% TSS removal for stormwater runoff from the proposed drive aisle and parking spaces, as well as roof areas, representing 71% of the total site area.

Due to site grading limitations, some impervious areas cannot be treated in a practical manner. A 300 sf area of paved parking flows across a 65ft long grass strip before reaching permeable pavers where runoff can infiltrate. Other isolated areas, such as the concrete pavement between the front of the Office Building and the back of the public sidewalk are not practical to collect and treat.

Please refer to Appendix C for computations and supporting information regarding water quality.

Standard 5

For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The redevelopment Project will not generate more than 1,000 vehicle trips per day and therefore is not

considered a land use with higher potential pollutant loads (LUHPPL).

Standard 6

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The redevelopment Project does not discharge to and is not located within a Zone II or Interim Wellhead Protection Area of a public water supply or near any other critical area.

Standard 7

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

he Project has been designed to fully comply with Standards 1-3 and 5-10.

Please refer directly to each Standard for demonstration of compliance and for applicable computations and supporting information.

Standard 8

A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

The redevelopment Project will comply with Standard 8.

The Project will disturb less than one (1) acre of land and therefore is not required to obtain coverage under the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit. In lieu of the Stormwater Pollution Prevention Plan (SWPPP) required under NPDES, a Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan has been prepared and is included in Appendix D.

Standard 9

A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

The redevelopment Project will comply with Standard 9.

A Stormwater Operation and Maintenance (O&M) Plan has been developed for the Project and is included in Appendix E.

Standard 10

All illicit discharges to the stormwater management system are prohibited.

The redevelopment Project will comply with Standard 10.

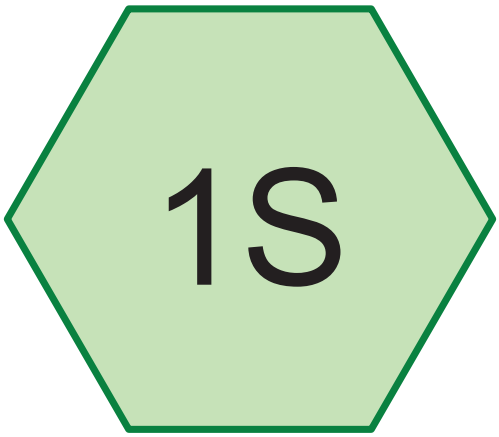
Sanitary sewer and storm drainage structures from prior development on this Site are to be completely removed during the site redevelopment. The Site Plans submitted with this report have been designed so that the components included therein are in full compliance with current standards. The Long-Term Pollution Prevention Plan has been provided along with the Stormwater Operation and Maintenance Plan to include measures for prevention of illicit discharges.

APPENDIX A

STANDARD 2 – SUPPORTING INFORMATION

Included in this section:

- HydroCAD Analysis
  - Existing Conditions Analysis
  - Proposed Conditions Analysis



1- Existing

Subcat Reach Pond Link

Routing Diagram for 1620000049 EX
Prepared by EBI Consulting, Printed 11/16/2020
HydroCAD® 10.10-3a s/n 07549 © 2020 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NRCC 24-hr	D	Default	24.00	1	3.16	2
2	10-Year	NRCC 24-hr	D	Default	24.00	1	4.77	2
3	25-Year	NRCC 24-hr	D	Default	24.00	1	6.03	2
4	100-Year	NRCC 24-hr	D	Default	24.00	1	8.62	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,066	74	>75% Grass cover, Good, HSG C (1S)
1,467	96	Gravel surface, HSG C (1S)
8,568	98	Paved parking, HSG C (1S)
5,399	98	Unconnected roofs, HSG C (1S)
16,500	**96**	**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	0	1,066	0	0	1,066	>75% Grass cover, Good	
0	0	1,467	0	0	1,467	Gravel surface	
0	0	8,568	0	0	8,568	Paved parking	
0	0	5,399	0	0	5,399	Unconnected roofs	
0	**0**	**16,500**	**0**	**0**	**16,500**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1- Existing Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=2.71"
Tc=6.0 min CN=96 Runoff=1.01 cfs 3,726 cf

Total Runoff Area = 16,500 sf Runoff Volume = 3,726 cf Average Runoff Depth = 2.71"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

Summary for Subcatchment 1S: 1- Existing

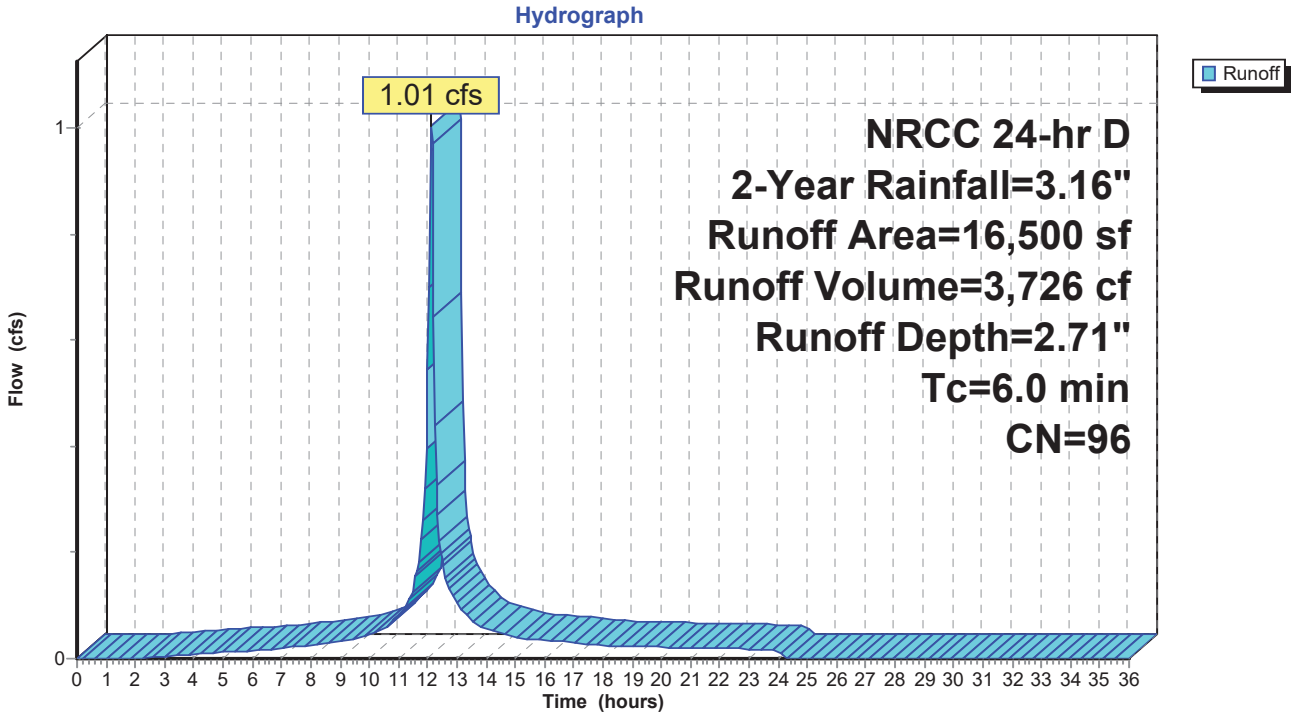
Runoff = 1.01 cfs @ 12.13 hrs, Volume= 3,726 cf, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: 1- Existing



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1- Existing Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=4.30"
Tc=6.0 min CN=96 Runoff=1.55 cfs 5,918 cf

Total Runoff Area = 16,500 sf Runoff Volume = 5,918 cf Average Runoff Depth = 4.30"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

Summary for Subcatchment 1S: 1- Existing

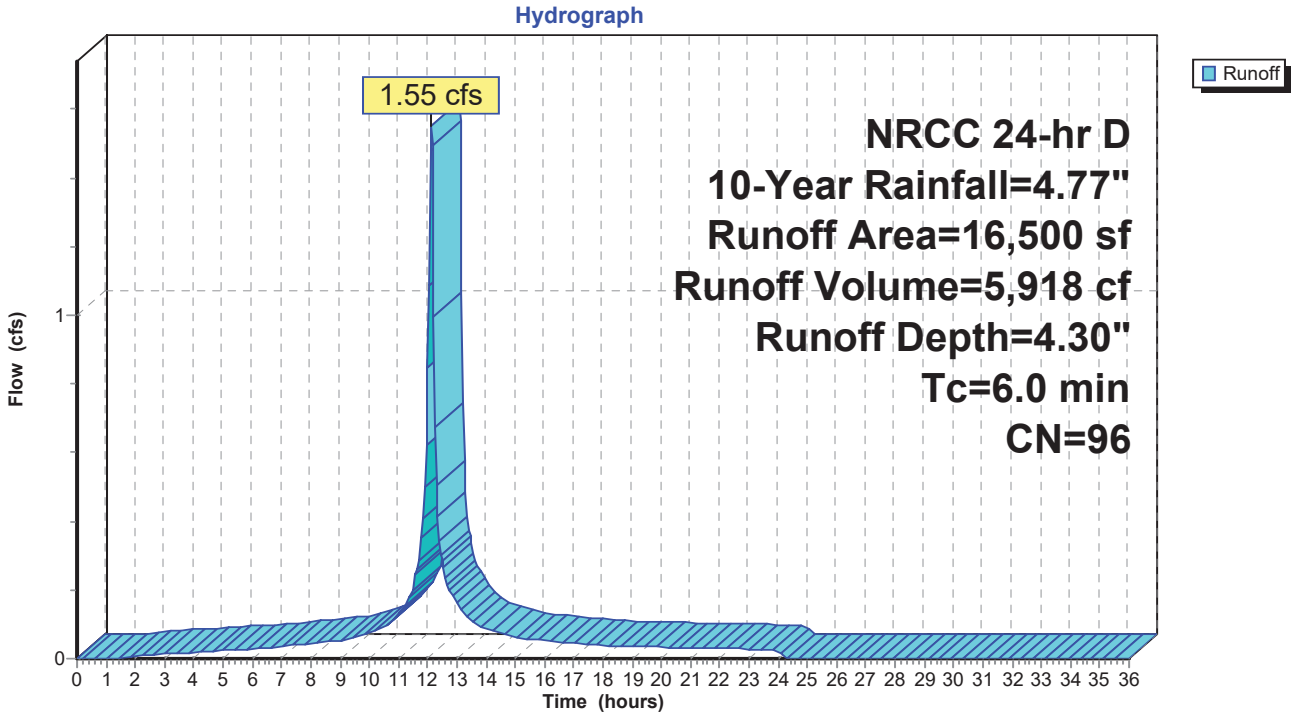
Runoff = 1.55 cfs @ 12.13 hrs, Volume= 5,918 cf, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: 1- Existing



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1- Existing Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=5.56"
Tc=6.0 min CN=96 Runoff=1.98 cfs 7,641 cf

Total Runoff Area = 16,500 sf Runoff Volume = 7,641 cf Average Runoff Depth = 5.56"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

Summary for Subcatchment 1S: 1- Existing

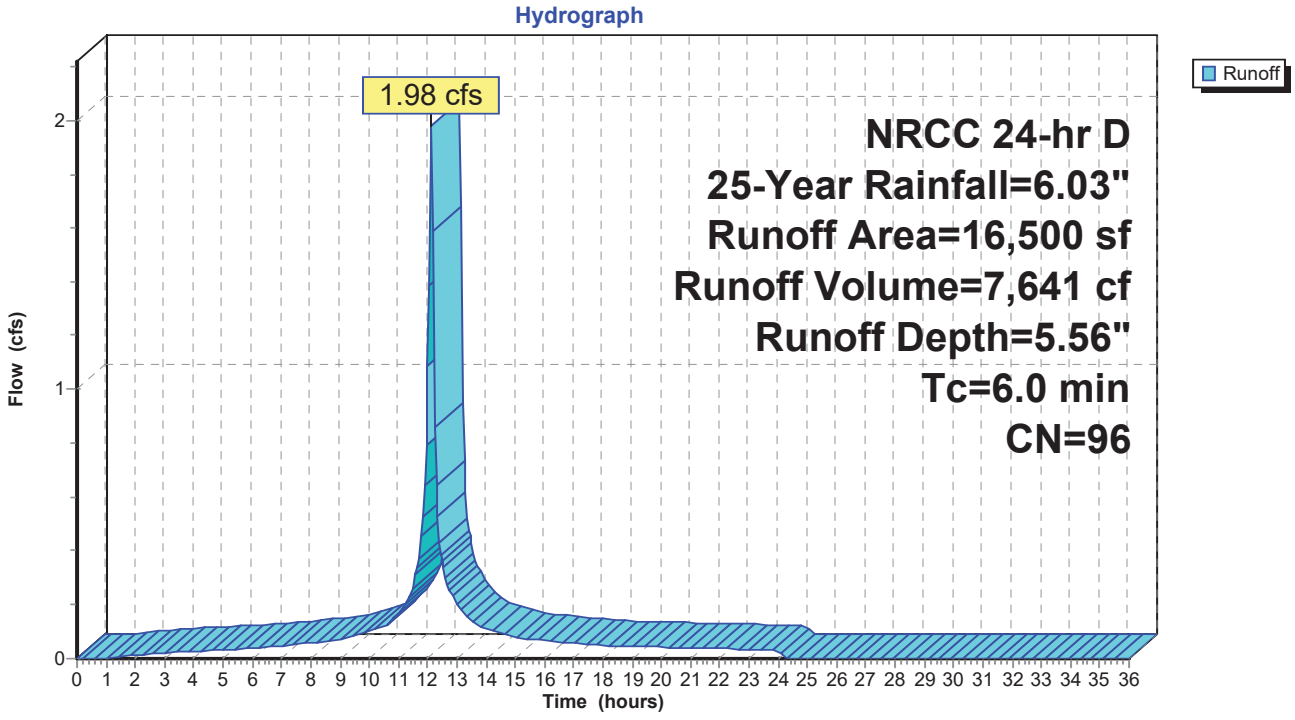
Runoff = 1.98 cfs @ 12.13 hrs, Volume= 7,641 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: 1- Existing



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1- Existing Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=8.14"
Tc=6.0 min CN=96 Runoff=2.85 cfs 11,192 cf

Total Runoff Area = 16,500 sf Runoff Volume = 11,192 cf Average Runoff Depth = 8.14"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

Summary for Subcatchment 1S: 1- Existing

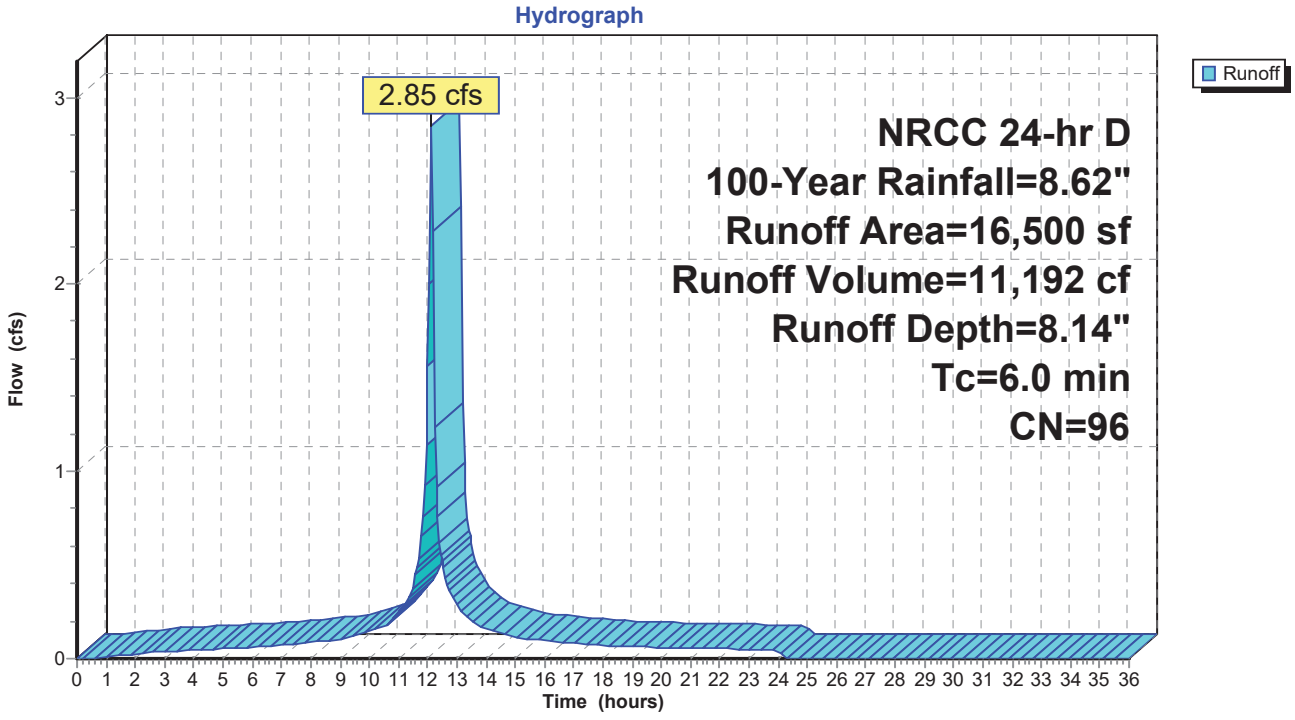
Runoff = 2.85 cfs @ 12.13 hrs, Volume= 11,192 cf, Depth= 8.14"

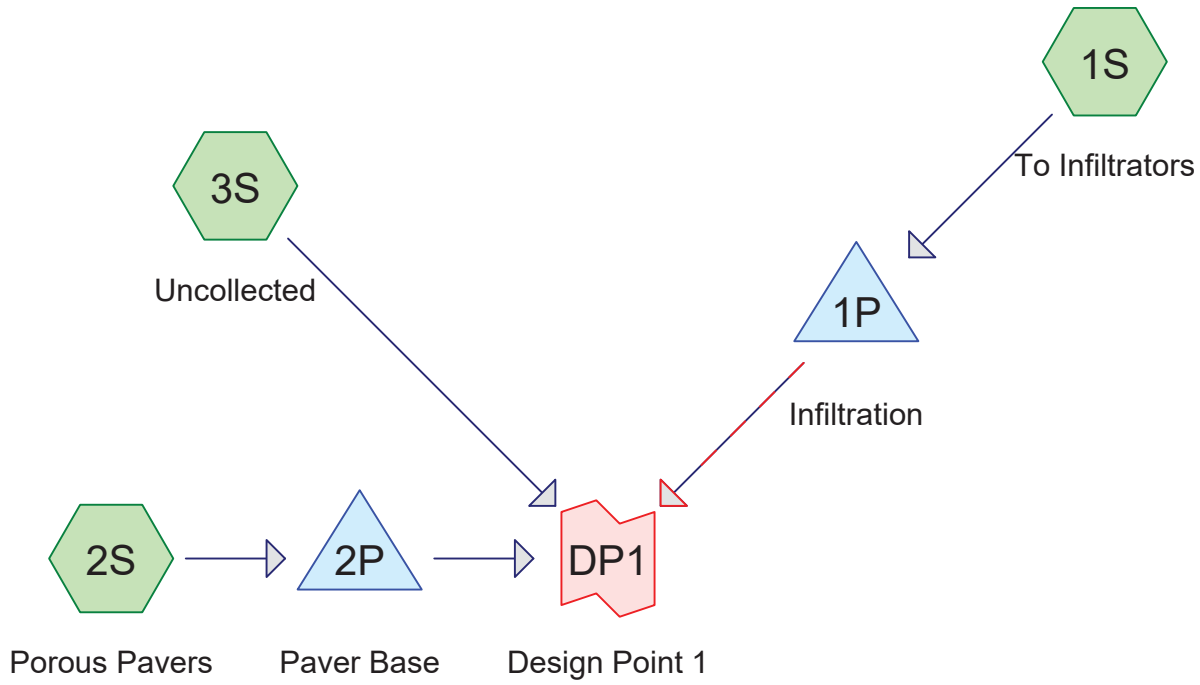
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: 1- Existing





Subcat Reach Pond Link

Routing Diagram for 1620000049 PR
Prepared by EBI Consulting, Printed 11/17/2020
HydroCAD® 10.10-3a s/n 07549 © 2020 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NRCC 24-hr	D	Default	24.00	1	3.16	2
2	10-Year	NRCC 24-hr	D	Default	24.00	1	4.77	2
3	25-Year	NRCC 24-hr	D	Default	24.00	1	6.03	2
4	100-Year	NRCC 24-hr	D	Default	24.00	1	8.62	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,155	74	>75% Grass cover, Good, HSG C (1S, 3S)
260	98	Concrete Pavement (3S)
2,780	98	Office Roof (partial), HSG C (1S)
2,384	98	Paved parking, HSG C (1S)
310	98	Porous Pavment (2S)
5,973	98	Residential Roof, HSG C (1S)
330	98	Retaining wall (3S)
300	98	Unconnected pavement, HSG C (3S)
3,008	98	Unconnected roofs, HSG C (3S)
16,500	**96**	**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	0	1,155	0	0	1,155	>75% Grass cover, Good	
0	0	0	0	260	260	Concrete Pavement	
0	0	2,780	0	0	2,780	Office Roof (partial)	
0	0	2,384	0	0	2,384	Paved parking	
0	0	0	0	310	310	Porous Pavment	
0	0	5,973	0	0	5,973	Residential Roof	
0	0	0	0	330	330	Retaining wall	
0	0	300	0	0	300	Unconnected pavement	
0	0	3,008	0	0	3,008	Unconnected roofs	
0	**0**	**15,600**	**0**	**900**	**16,500**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: To Infiltrators Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=2.82"
Tc=6.0 min CN=97 Runoff=0.73 cfs 2,753 cf

Subcatchment 2S: Porous Pavers Runoff Area=310 sf 100.00% Impervious Runoff Depth=2.93"
Tc=6.0 min CN=98 Runoff=0.02 cfs 76 cf

Subcatchment 3S: Uncollected Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=2.61"
Tc=6.0 min CN=95 Runoff=0.27 cfs 969 cf

Pond 1P: Infiltration Peak Elev=10.06' Storage=168 cf Inflow=0.73 cfs 2,753 cf
Discarded=0.00 cfs 286 cf Primary=0.71 cfs 2,455 cf Outflow=0.71 cfs 2,741 cf

Pond 2P: Paver Base Peak Elev=12.98' Storage=22 cf Inflow=0.02 cfs 76 cf
Discarded=0.00 cfs 76 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 76 cf

Link DP1: Design Point 1 Inflow=0.97 cfs 3,424 cf
Primary=0.97 cfs 3,424 cf

Total Runoff Area = 16,500 sf Runoff Volume = 3,798 cf Average Runoff Depth = 2.76"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

Summary for Subcatchment 1S: To Infiltrators

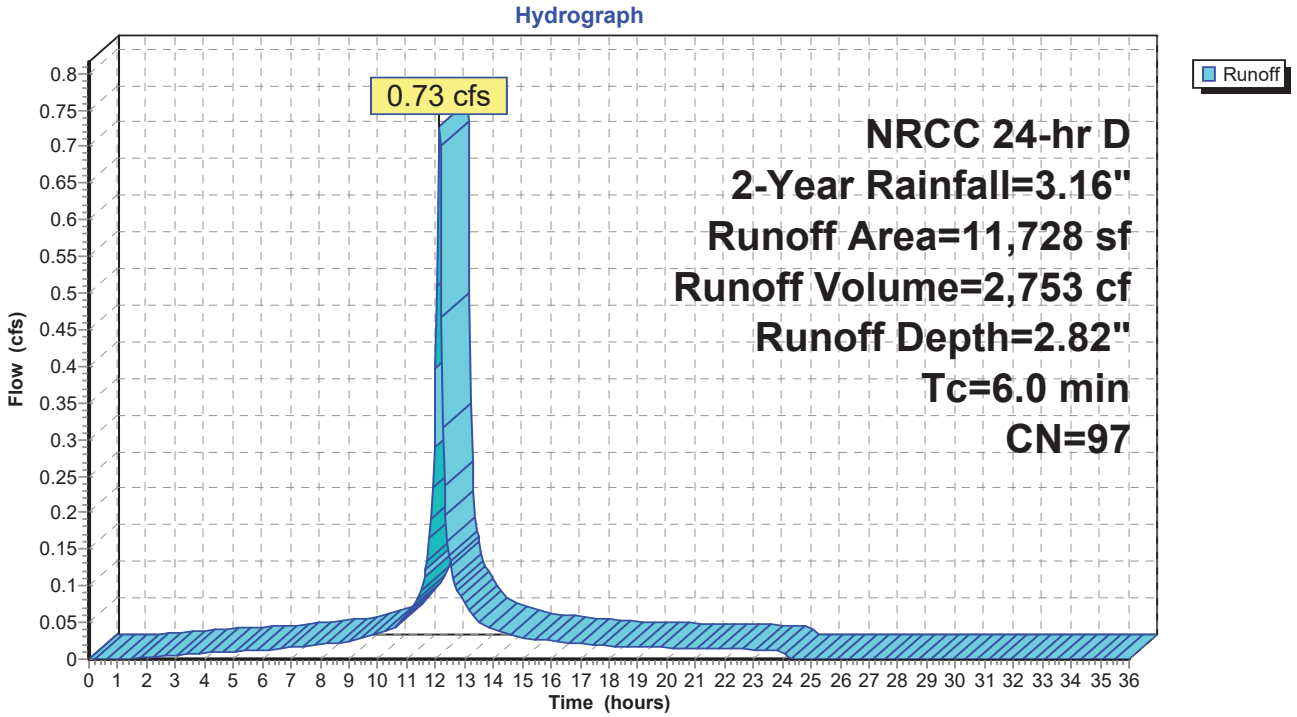
Runoff = 0.73 cfs @ 12.13 hrs, Volume= 2,753 cf, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: To Infiltrators



Summary for Subcatchment 2S: Porous Pavers

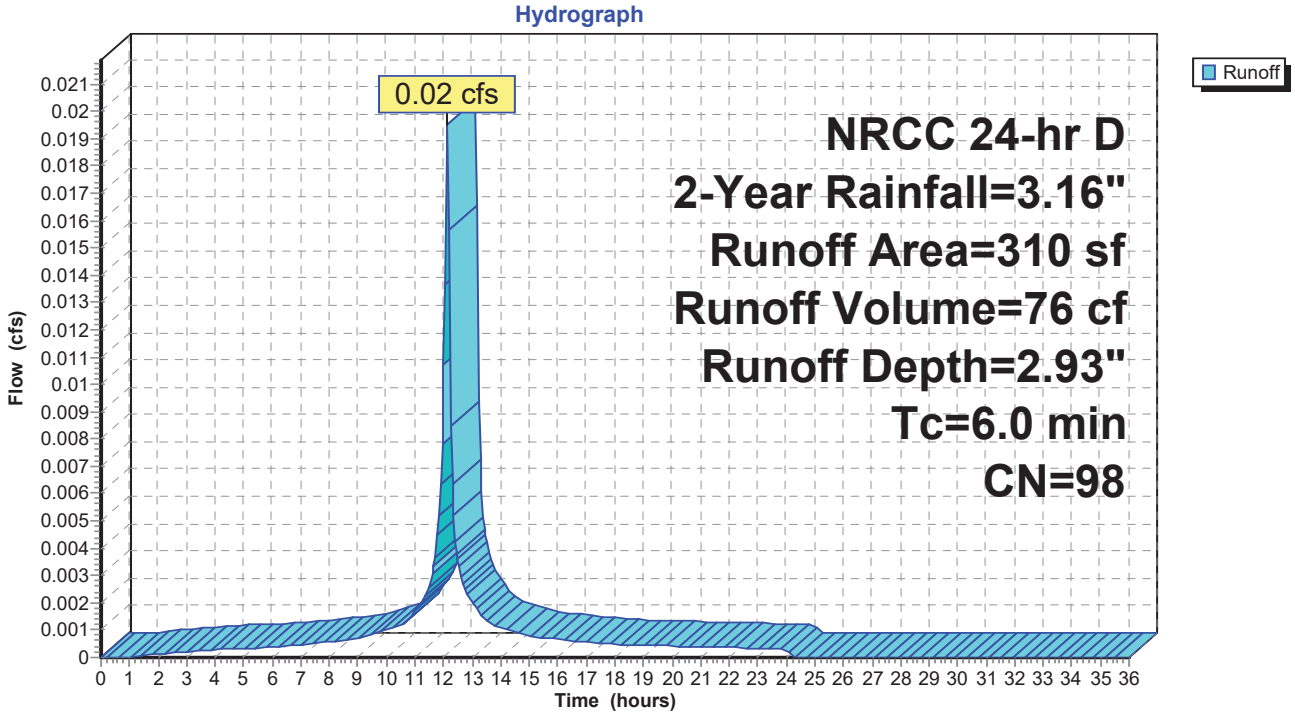
Runoff = 0.02 cfs @ 12.13 hrs, Volume= 76 cf, Depth= 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 2S: Porous Pavers



Summary for Subcatchment 3S: Uncollected

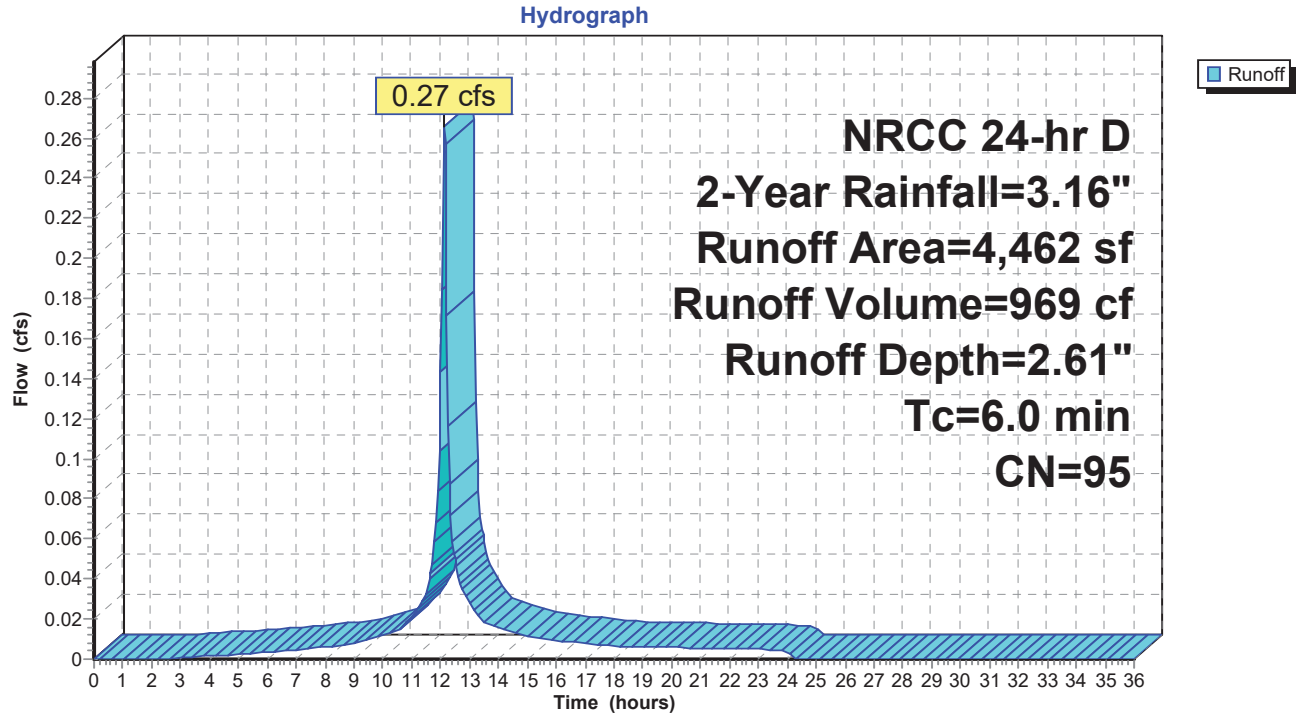
Runoff = 0.27 cfs @ 12.13 hrs, Volume= 969 cf, Depth= 2.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 3S: Uncollected



Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 2.82" for 2-Year event
Inflow = 0.73 cfs @ 12.13 hrs, Volume= 2,753 cf
Outflow = 0.71 cfs @ 12.14 hrs, Volume= 2,741 cf, Atten= 3%, Lag= 1.1 min
Discarded = 0.00 cfs @ 12.14 hrs, Volume= 286 cf
Primary = 0.71 cfs @ 12.14 hrs, Volume= 2,455 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 10.06' @ 12.14 hrs Surf.Area= 201 sf Storage= 168 cf

Plug-Flow detention time= 56.6 min calculated for 2,741 cf (100% of inflow)
Center-of-Mass det. time= 53.8 min (826.3 - 772.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	**6.25'W x 32.10'L x 3.50'H Field A** 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	**ADS_StormTech SC-740 +Cap** x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	**8.0" Round Overflow** L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.14 hrs HW=10.06' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.70 cfs @ 12.14 hrs HW=10.06' (Free Discharge)
↑—**2=Overflow** (Inlet Controls 0.70 cfs @ 2.24 fps)

Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

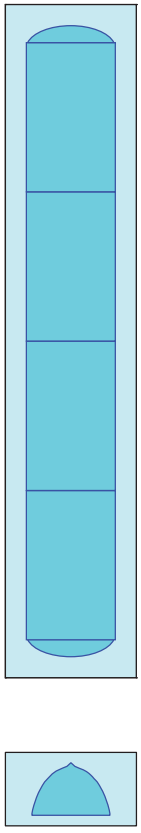
4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length
1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

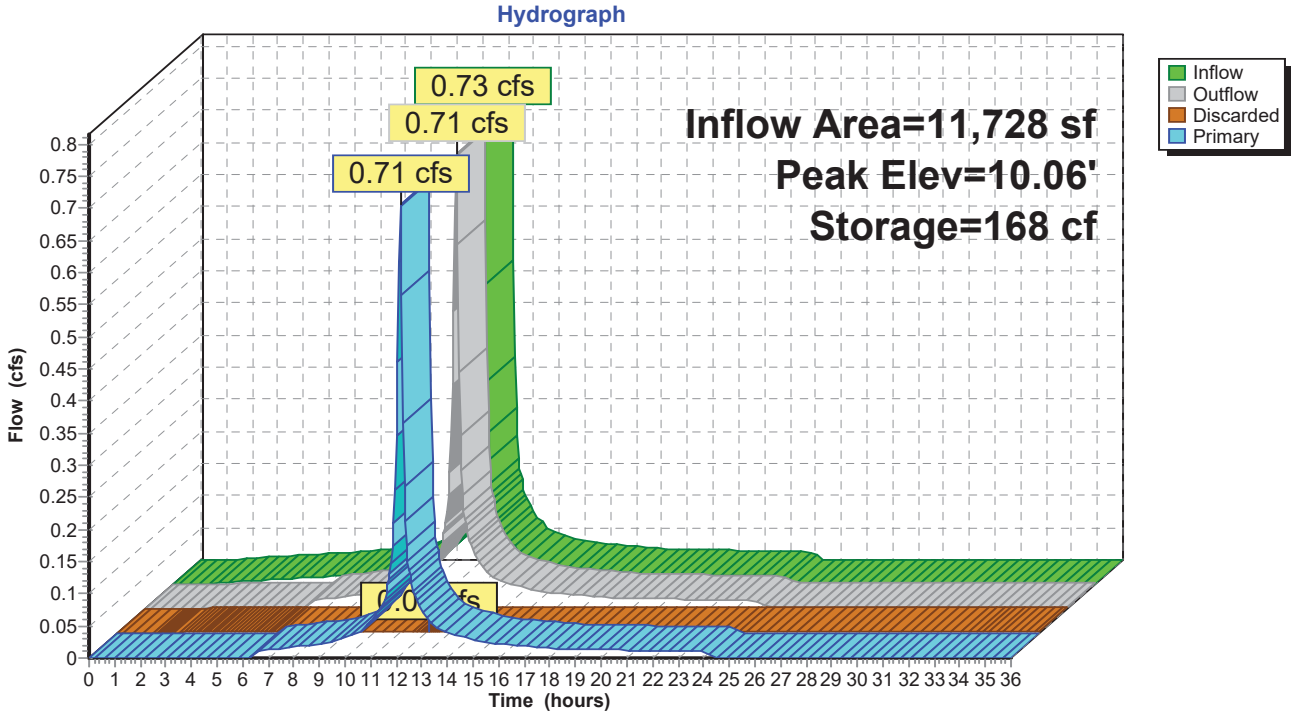
702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af
Overall Storage Efficiency = 48.3%
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ $ 300.00 /ea = $ 1,200.00
26.0 cy Field Excavation @ $ 30.00 /cy = $ 780.13
19.2 cy Stone @ $ 30.00 /cy = $ 575.95
Total Cost = $ 2,556.08



Pond 1P: Infiltration



Summary for Pond 2P: Paver Base

Inflow Area = 310 sf,100.00% Impervious, Inflow Depth = 2.93" for 2-Year event
Inflow = 0.02 cfs @ 12.13 hrs, Volume= 76 cf
Outflow = 0.00 cfs @ 13.00 hrs, Volume= 76 cf, Atten= 90%, Lag= 52.2 min
Discarded = 0.00 cfs @ 13.00 hrs, Volume= 76 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 12.98' @ 13.00 hrs Surf.Area= 310 sf Storage= 22 cf

Plug-Flow detention time= 70.3 min calculated for 76 cf (100% of inflow)
Center-of-Mass det. time= 70.3 min (831.0 - 760.7)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	**Stone storage (Prismatic)**Listed below (Recalc) 388 cf Overall x 30.0% Voids

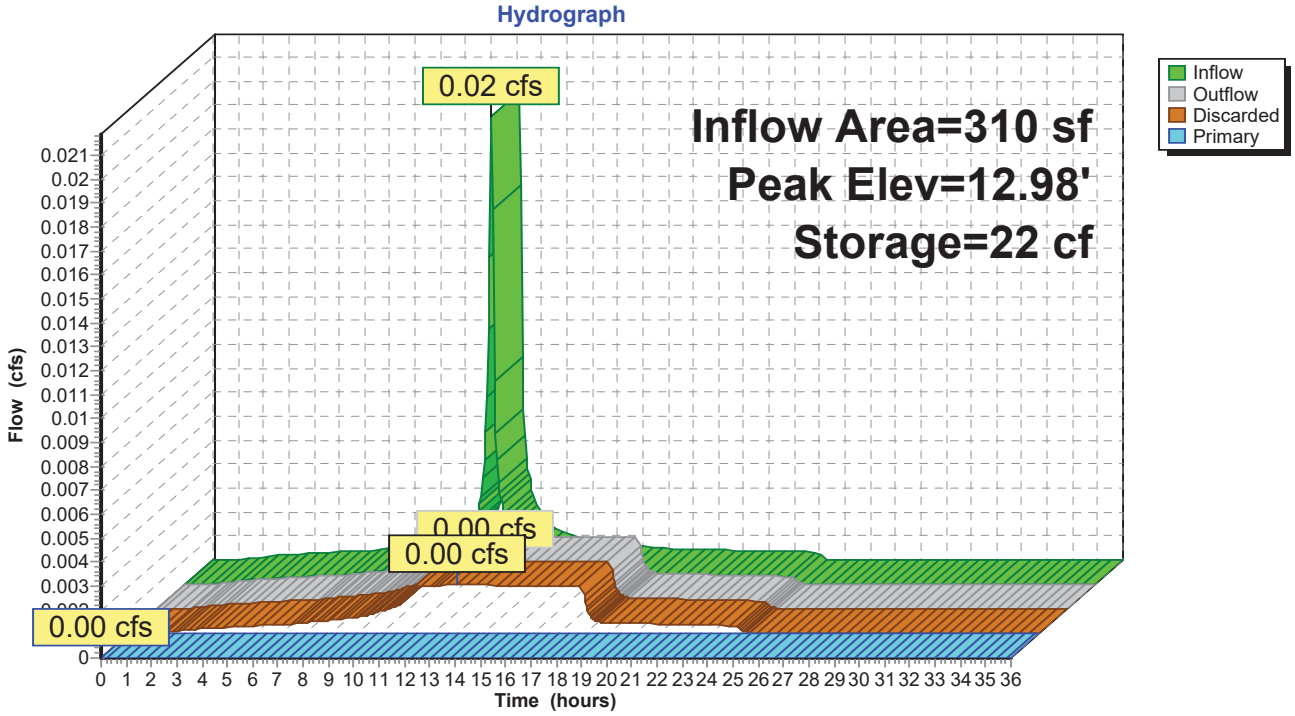
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	**Automatic Storage Overflow** (Discharged without head)
#1	Discarded	12.75'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 13.00 hrs HW=12.98' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

Pond 2P: Paver Base

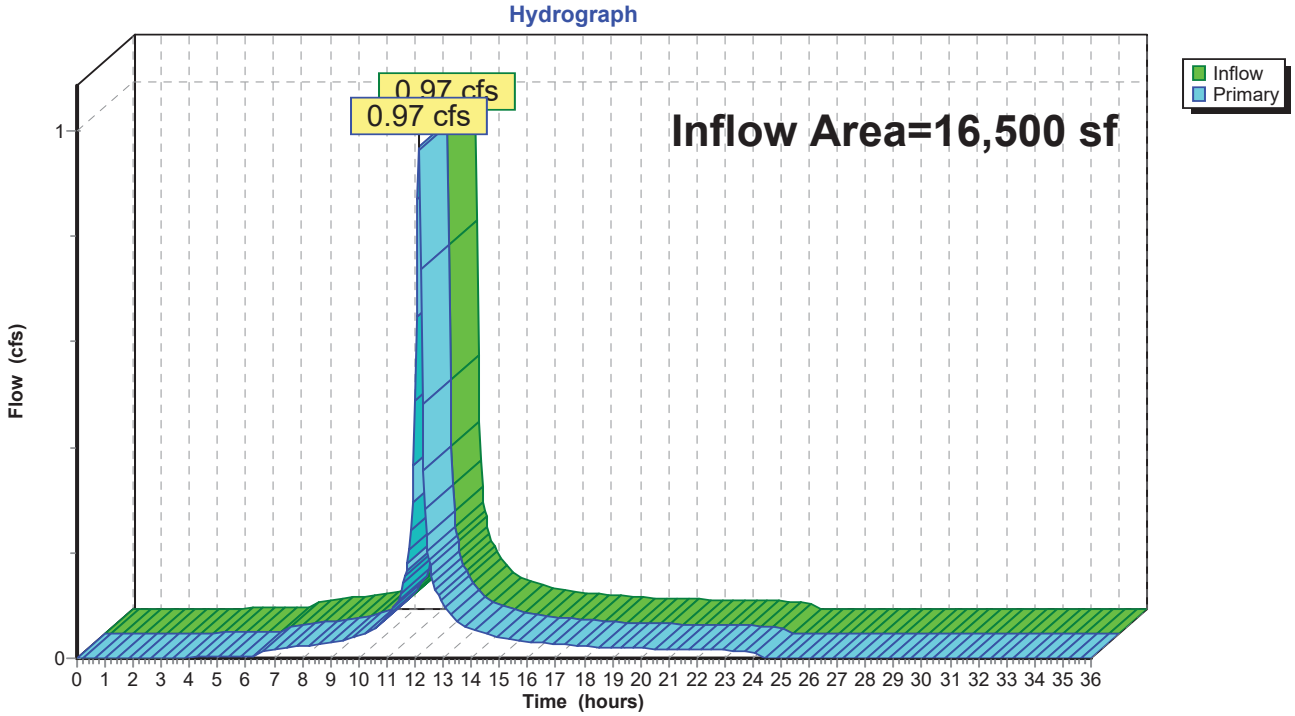


Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 2.49" for 2-Year event
Inflow = 0.97 cfs @ 12.14 hrs, Volume= 3,424 cf
Primary = 0.97 cfs @ 12.14 hrs, Volume= 3,424 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP1: Design Point 1



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: To Infiltrators Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=4.42"
Tc=6.0 min CN=97 Runoff=1.12 cfs 4,318 cf

Subcatchment 2S: Porous Pavers Runoff Area=310 sf 100.00% Impervious Runoff Depth=4.53"
Tc=6.0 min CN=98 Runoff=0.03 cfs 117 cf

Subcatchment 3S: Uncollected Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=4.19"
Tc=6.0 min CN=95 Runoff=0.42 cfs 1,559 cf

Pond 1P: Infiltration Peak Elev=10.34' Storage=201 cf Inflow=1.12 cfs 4,318 cf
Discarded=0.00 cfs 298 cf Primary=1.05 cfs 4,008 cf Outflow=1.06 cfs 4,306 cf

Pond 2P: Paver Base Peak Elev=13.19' Storage=40 cf Inflow=0.03 cfs 117 cf
Discarded=0.00 cfs 117 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 117 cf

Link DP1: Design Point 1 Inflow=1.46 cfs 5,566 cf
Primary=1.46 cfs 5,566 cf

Total Runoff Area = 16,500 sf Runoff Volume = 5,994 cf Average Runoff Depth = 4.36"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

Summary for Subcatchment 1S: To Infiltrators

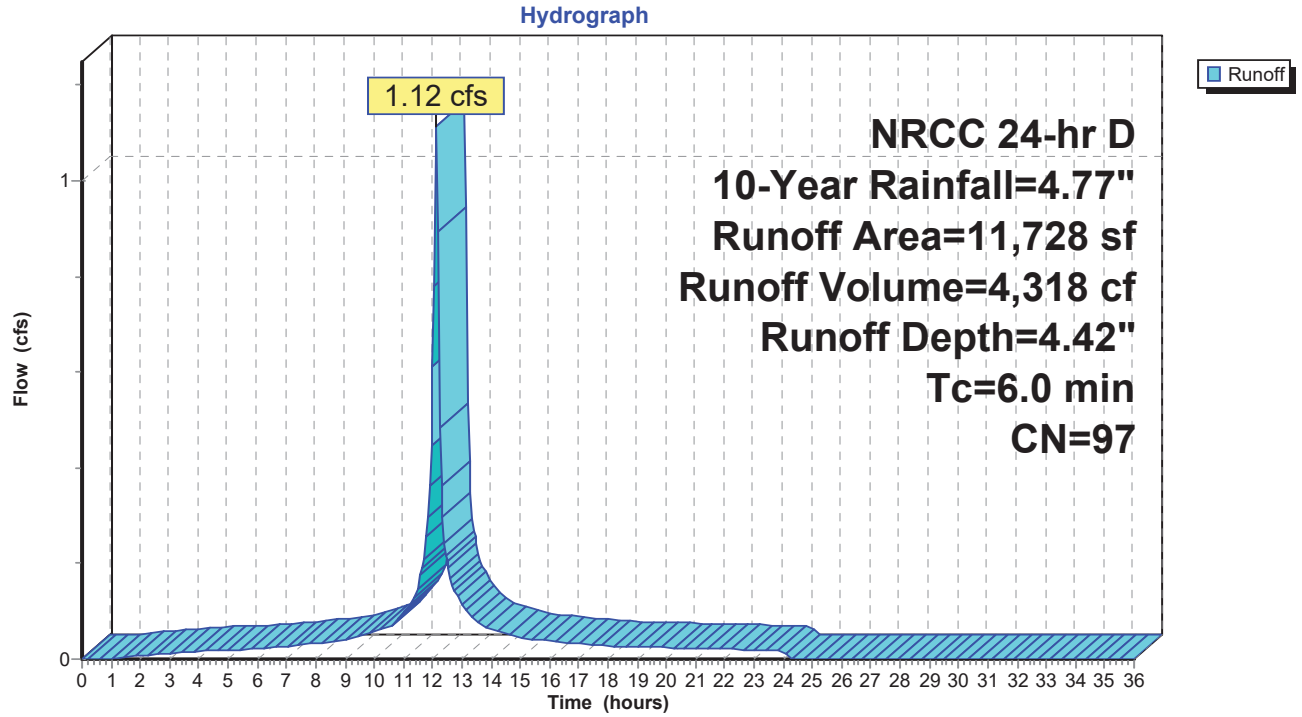
Runoff = 1.12 cfs @ 12.13 hrs, Volume= 4,318 cf, Depth= 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: To Infiltrators



Summary for Subcatchment 2S: Porous Pavers

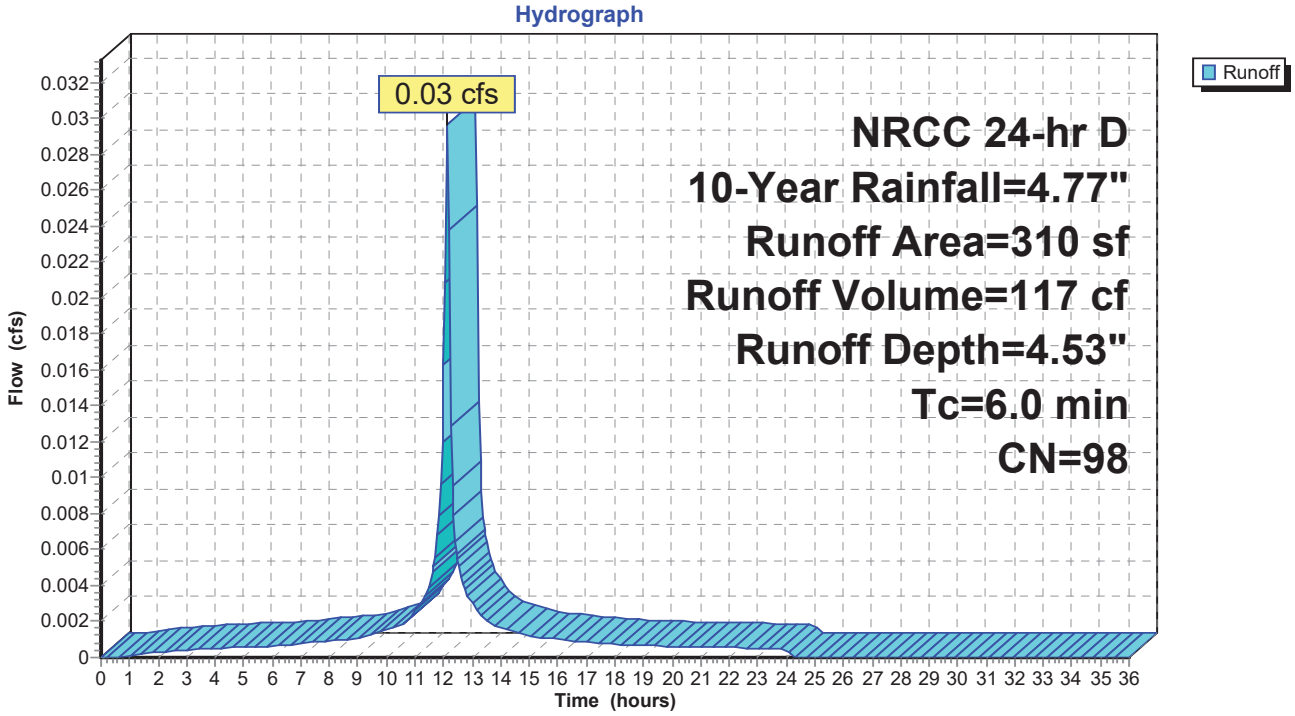
Runoff = 0.03 cfs @ 12.13 hrs, Volume= 117 cf, Depth= 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 2S: Porous Pavers



Summary for Subcatchment 3S: Uncollected

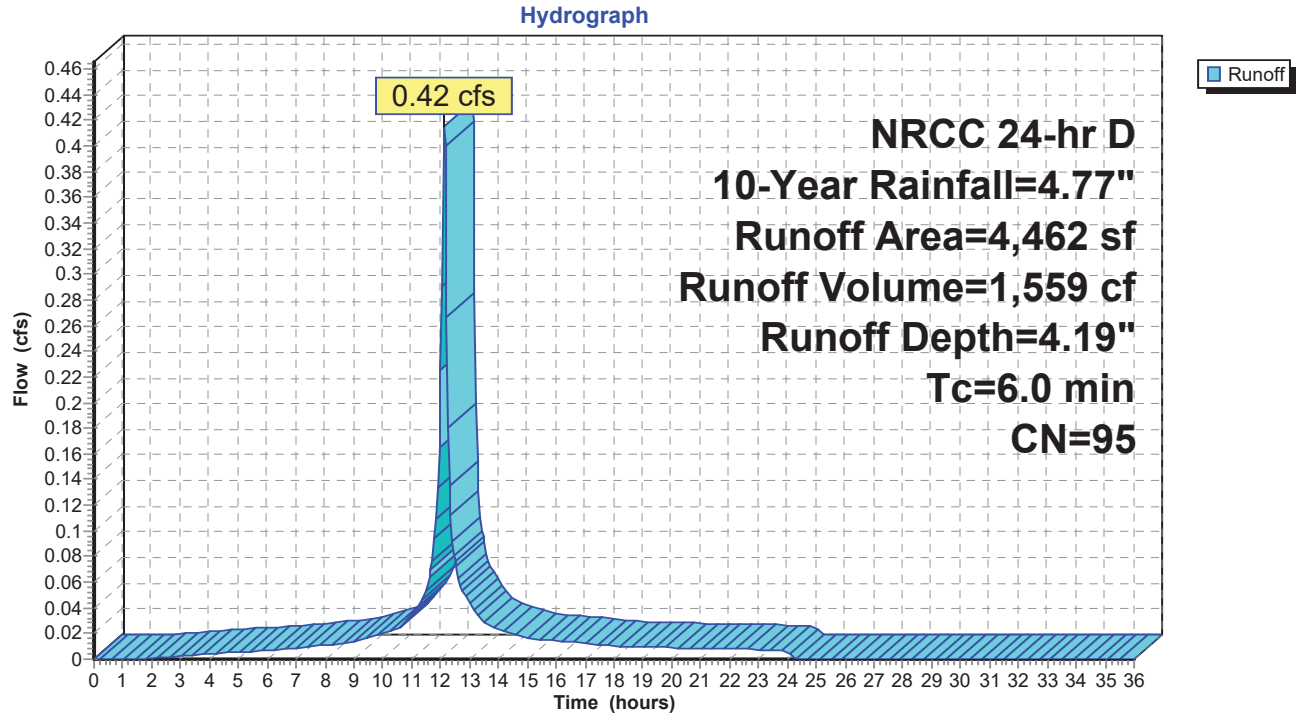
Runoff = 0.42 cfs @ 12.13 hrs, Volume= 1,559 cf, Depth= 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 3S: Uncollected



Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 4.42" for 10-Year event
Inflow = 1.12 cfs @ 12.13 hrs, Volume= 4,318 cf
Outflow = 1.06 cfs @ 12.15 hrs, Volume= 4,306 cf, Atten= 5%, Lag= 1.3 min
Discarded = 0.00 cfs @ 12.15 hrs, Volume= 298 cf
Primary = 1.05 cfs @ 12.15 hrs, Volume= 4,008 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 10.34' @ 12.15 hrs Surf.Area= 201 sf Storage= 201 cf

Plug-Flow detention time= 39.2 min calculated for 4,306 cf (100% of inflow)
Center-of-Mass det. time= 37.3 min (798.2 - 760.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	**6.25'W x 32.10'L x 3.50'H Field A** 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	**ADS_StormTech SC-740 +Cap** x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	**8.0" Round Overflow** L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.15 hrs HW=10.33' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=1.05 cfs @ 12.15 hrs HW=10.33' (Free Discharge)
↑—**2=Overflow** (Inlet Controls 1.05 cfs @ 3.01 fps)

Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

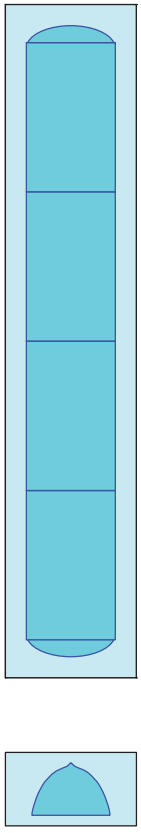
4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length
1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

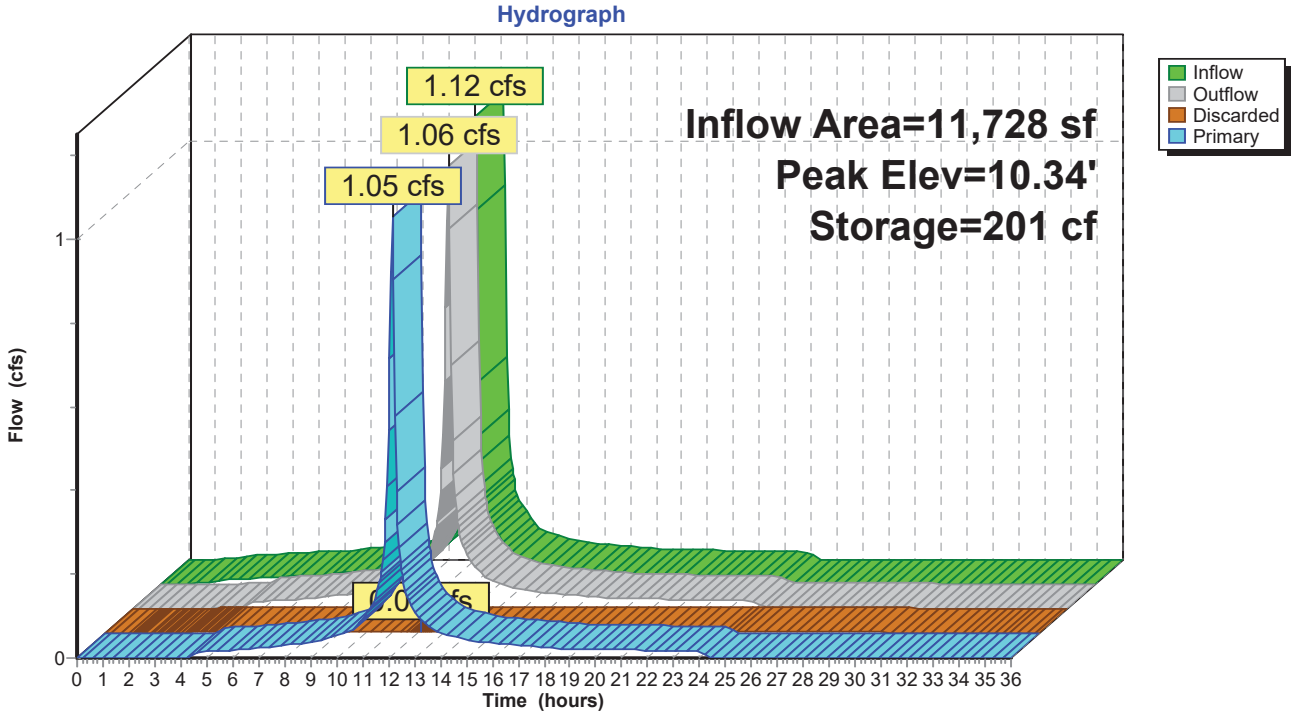
702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af
Overall Storage Efficiency = 48.3%
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ $ 300.00 /ea = $ 1,200.00
26.0 cy Field Excavation @ $ 30.00 /cy = $ 780.13
19.2 cy Stone @ $ 30.00 /cy = $ 575.95
Total Cost = $ 2,556.08



Pond 1P: Infiltration



Summary for Pond 2P: Paver Base

Inflow Area = 310 sf,100.00% Impervious, Inflow Depth = 4.53" for 10-Year event
Inflow = 0.03 cfs @ 12.13 hrs, Volume= 117 cf
Outflow = 0.00 cfs @ 13.49 hrs, Volume= 117 cf, Atten= 93%, Lag= 81.7 min
Discarded = 0.00 cfs @ 13.49 hrs, Volume= 117 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 13.19' @ 13.49 hrs Surf.Area= 310 sf Storage= 40 cf

Plug-Flow detention time= 145.1 min calculated for 117 cf (100% of inflow)
Center-of-Mass det. time= 144.9 min (896.4 - 751.4)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	**Stone storage (Prismatic)**Listed below (Recalc) 388 cf Overall x 30.0% Voids

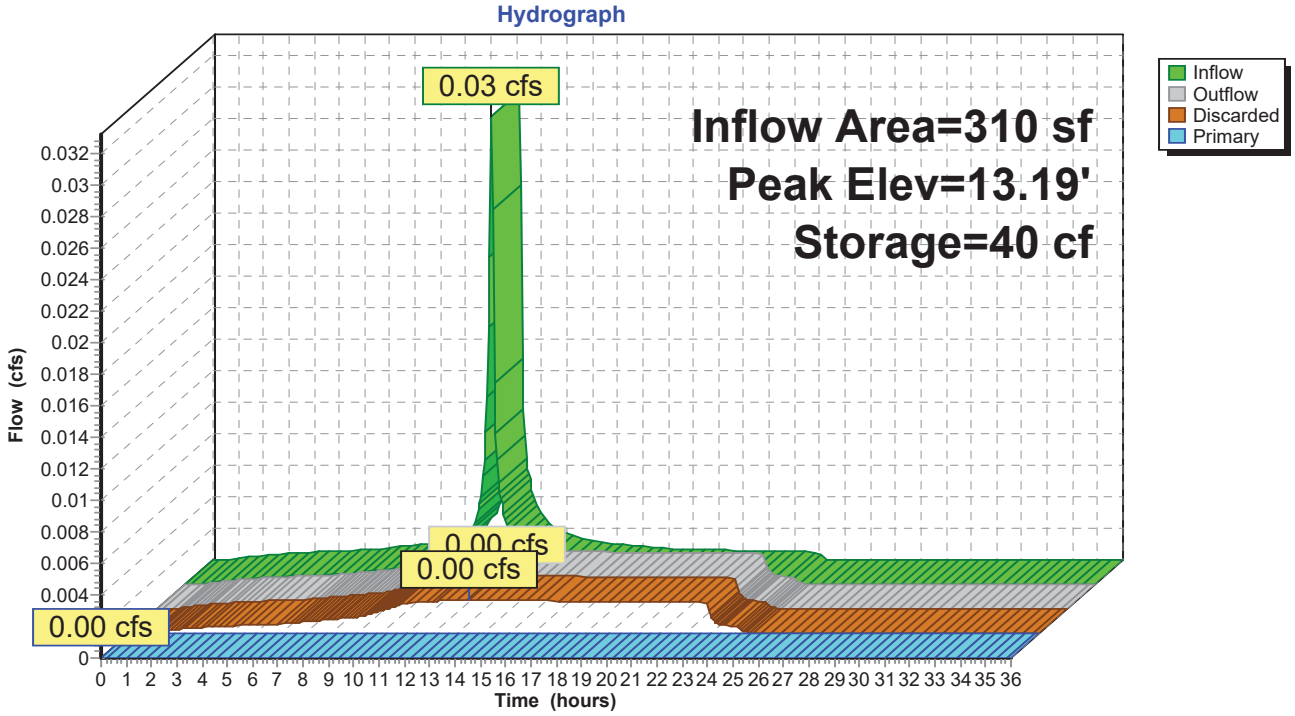
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	**Automatic Storage Overflow** (Discharged without head)
#1	Discarded	12.75'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 13.49 hrs HW=13.19' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

Pond 2P: Paver Base

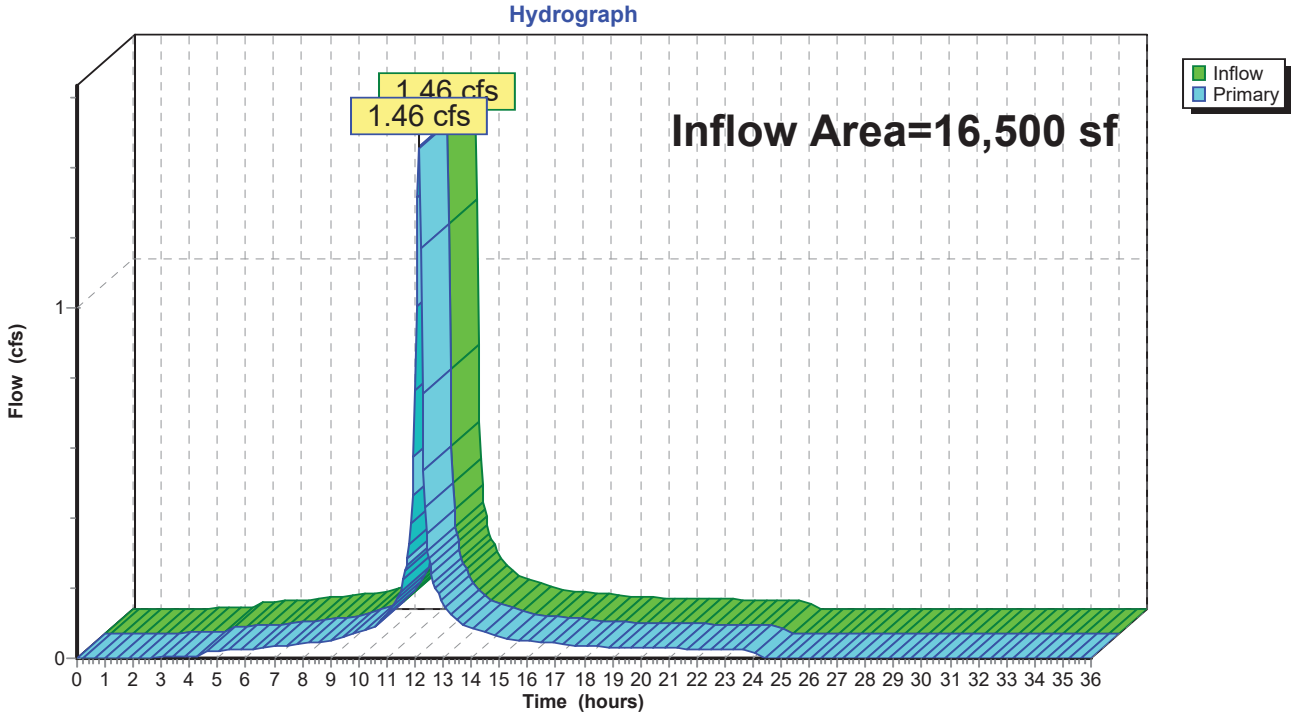


Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 4.05" for 10-Year event
Inflow = 1.46 cfs @ 12.14 hrs, Volume= 5,566 cf
Primary = 1.46 cfs @ 12.14 hrs, Volume= 5,566 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP1: Design Point 1



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: To Infiltrators Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=5.67"
Tc=6.0 min CN=97 Runoff=1.42 cfs 5,545 cf

Subcatchment 2S: Porous Pavers Runoff Area=310 sf 100.00% Impervious Runoff Depth=5.79"
Tc=6.0 min CN=98 Runoff=0.04 cfs 150 cf

Subcatchment 3S: Uncollected Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=95 Runoff=0.53 cfs 2,023 cf

Pond 1P: Infiltration Peak Elev=10.62' Storage=233 cf Inflow=1.42 cfs 5,545 cf
Discarded=0.00 cfs 304 cf Primary=1.32 cfs 5,229 cf Outflow=1.32 cfs 5,534 cf

Pond 2P: Paver Base Peak Elev=13.36' Storage=57 cf Inflow=0.04 cfs 150 cf
Discarded=0.00 cfs 150 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 150 cf

Link DP1: Design Point 1 Inflow=1.84 cfs 7,253 cf
Primary=1.84 cfs 7,253 cf

Total Runoff Area = 16,500 sf Runoff Volume = 7,718 cf Average Runoff Depth = 5.61"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

Summary for Subcatchment 1S: To Infiltrators

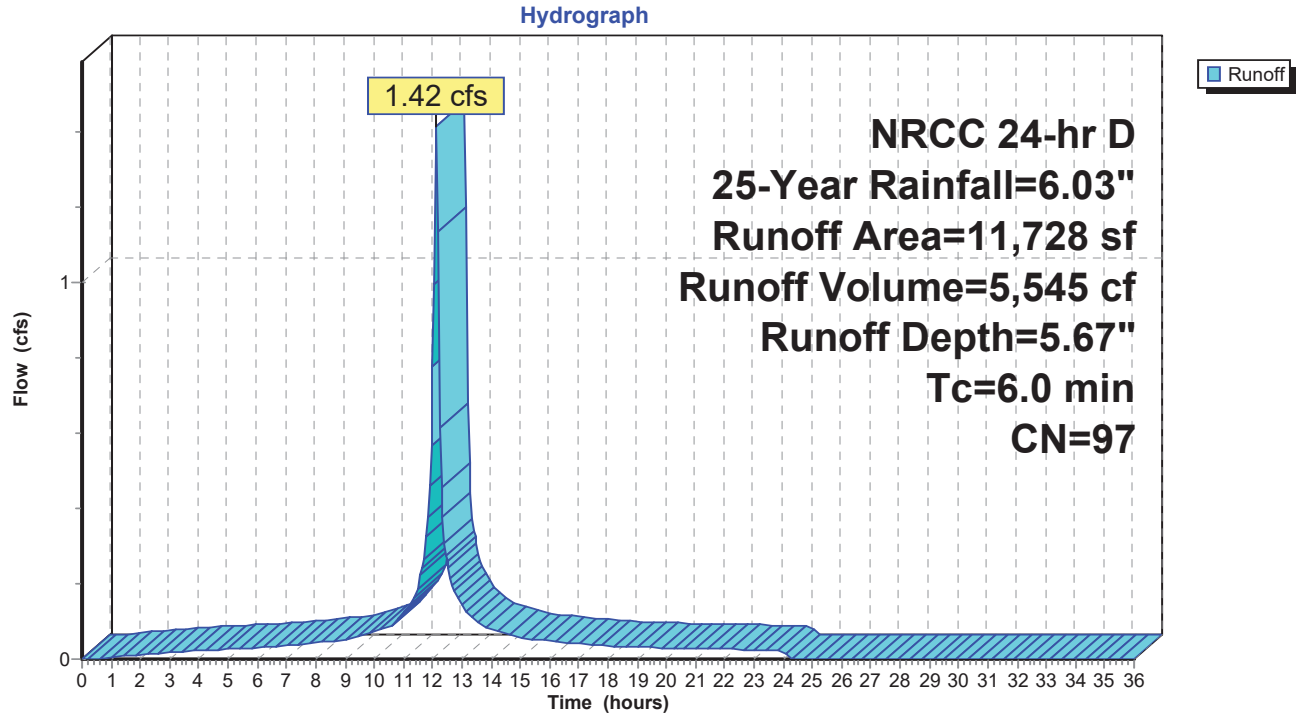
Runoff = 1.42 cfs @ 12.13 hrs, Volume= 5,545 cf, Depth= 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: To Infiltrators



Summary for Subcatchment 2S: Porous Pavers

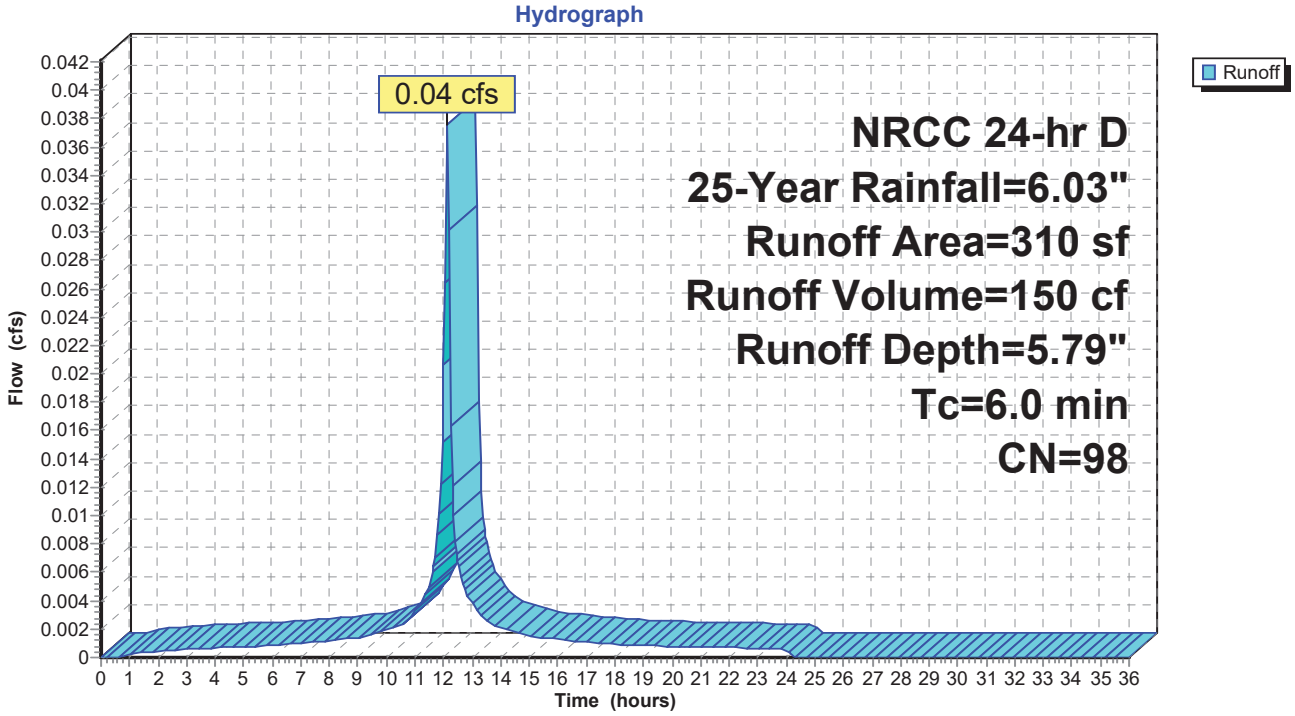
Runoff = 0.04 cfs @ 12.13 hrs, Volume= 150 cf, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 2S: Porous Pavers



Summary for Subcatchment 3S: Uncollected

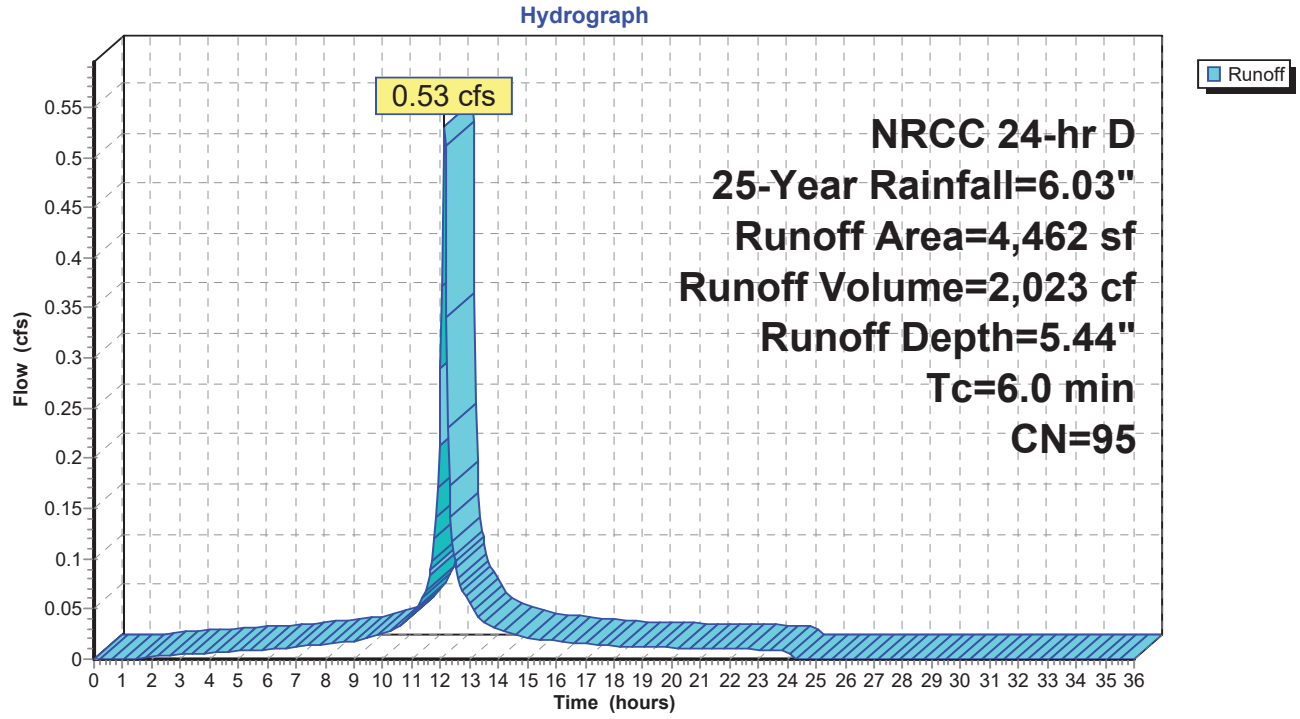
Runoff = 0.53 cfs @ 12.13 hrs, Volume= 2,023 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 3S: Uncollected



Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 5.67" for 25-Year event
Inflow = 1.42 cfs @ 12.13 hrs, Volume= 5,545 cf
Outflow = 1.32 cfs @ 12.15 hrs, Volume= 5,534 cf, Atten= 7%, Lag= 1.5 min
Discarded = 0.00 cfs @ 12.15 hrs, Volume= 304 cf
Primary = 1.32 cfs @ 12.15 hrs, Volume= 5,229 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 10.62' @ 12.15 hrs Surf.Area= 201 sf Storage= 233 cf

Plug-Flow detention time= 31.8 min calculated for 5,534 cf (100% of inflow)
Center-of-Mass det. time= 30.3 min (785.6 - 755.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	**6.25'W x 32.10'L x 3.50'H Field A** 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	**ADS_StormTech SC-740 +Cap** x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	**8.0" Round Overflow** L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.15 hrs HW=10.62' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=1.32 cfs @ 12.15 hrs HW=10.62' (Free Discharge)
↑—**2=Overflow** (Inlet Controls 1.32 cfs @ 3.77 fps)

Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

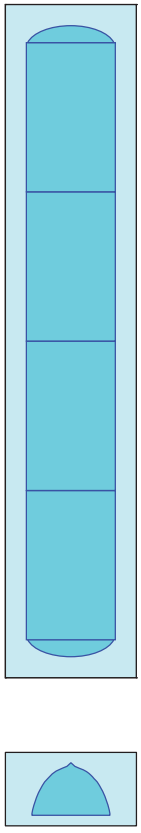
4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length
1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

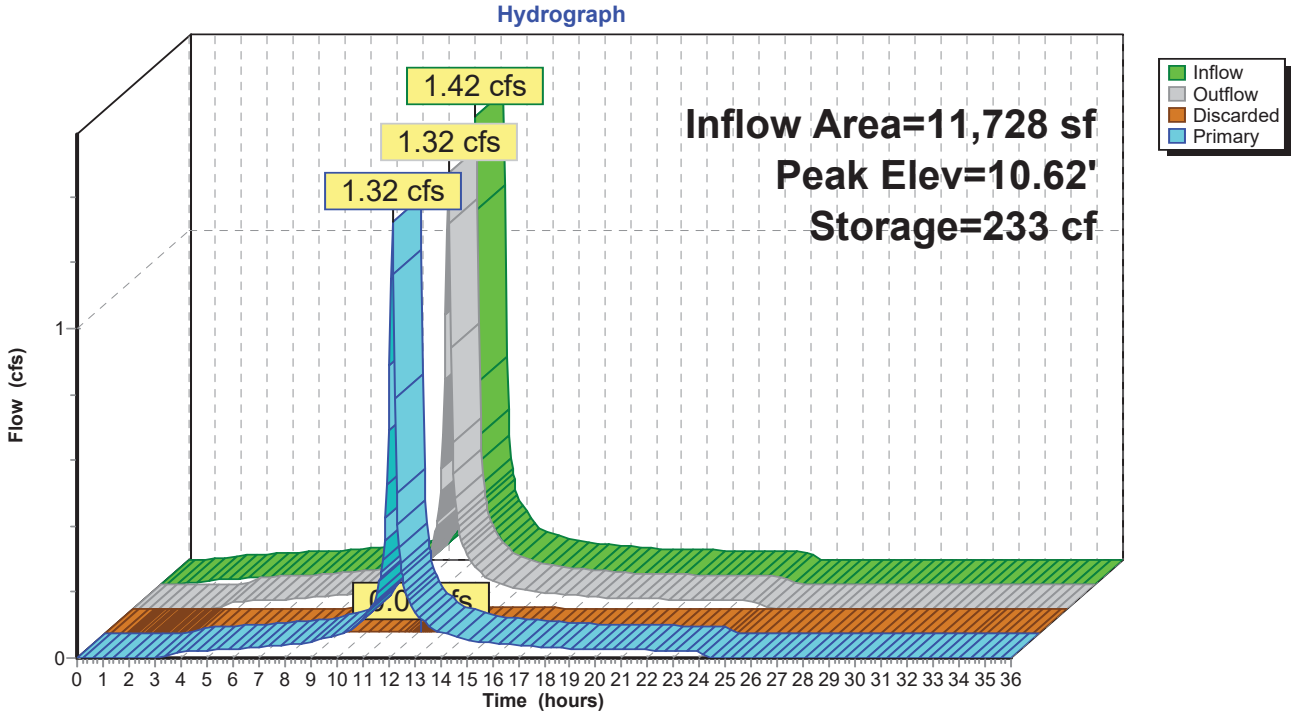
702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af
Overall Storage Efficiency = 48.3%
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ $ 300.00 /ea = $ 1,200.00
26.0 cy Field Excavation @ $ 30.00 /cy = $ 780.13
19.2 cy Stone @ $ 30.00 /cy = $ 575.95
Total Cost = $ 2,556.08



Pond 1P: Infiltration



Summary for Pond 2P: Paver Base

Inflow Area = 310 sf,100.00% Impervious, Inflow Depth = 5.79" for 25-Year event
Inflow = 0.04 cfs @ 12.13 hrs, Volume= 150 cf
Outflow = 0.00 cfs @ 13.92 hrs, Volume= 150 cf, Atten= 94%, Lag= 107.6 min
Discarded = 0.00 cfs @ 13.92 hrs, Volume= 150 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 13.36' @ 13.92 hrs Surf.Area= 310 sf Storage= 57 cf

Plug-Flow detention time= 214.9 min calculated for 149 cf (100% of inflow)
Center-of-Mass det. time= 214.9 min (962.0 - 747.1)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	**Stone storage (Prismatic)**Listed below (Recalc) 388 cf Overall x 30.0% Voids

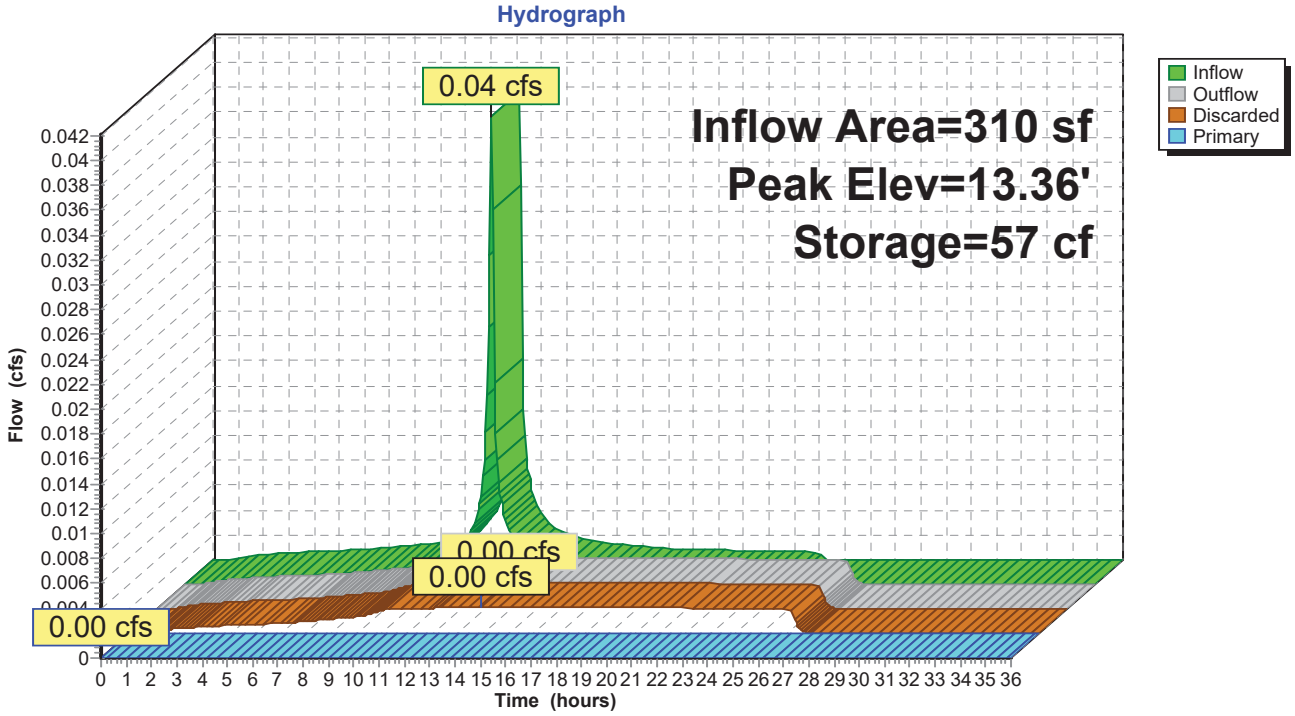
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	**Automatic Storage Overflow** (Discharged without head)
#1	Discarded	12.75'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 13.92 hrs HW=13.36' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

Pond 2P: Paver Base

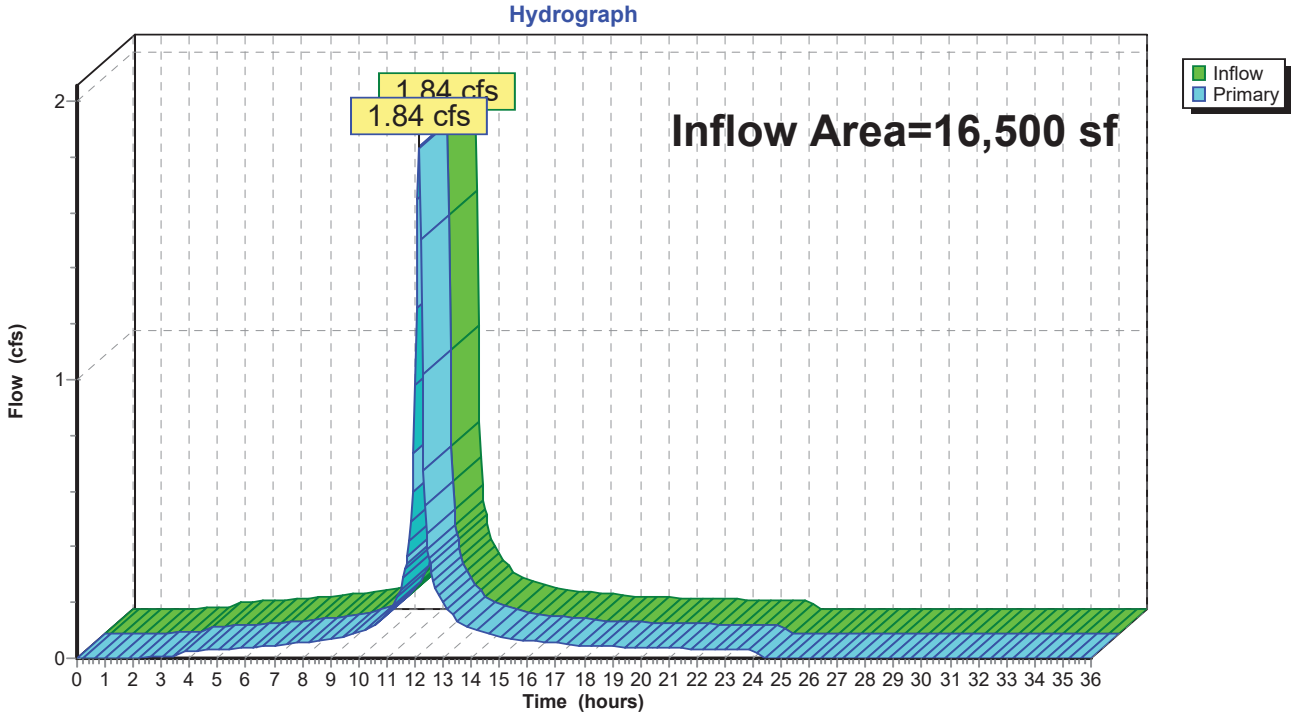


Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 5.27" for 25-Year event
Inflow = 1.84 cfs @ 12.14 hrs, Volume= 7,253 cf
Primary = 1.84 cfs @ 12.14 hrs, Volume= 7,253 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP1: Design Point 1



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: To Infiltrators Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=8.26"
Tc=6.0 min CN=97 Runoff=2.03 cfs 8,072 cf

Subcatchment 2S: Porous Pavers Runoff Area=310 sf 100.00% Impervious Runoff Depth=8.38"
Tc=6.0 min CN=98 Runoff=0.05 cfs 216 cf

Subcatchment 3S: Uncollected Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=8.02"
Tc=6.0 min CN=95 Runoff=0.77 cfs 2,982 cf

Pond 1P: Infiltration Peak Elev=11.46' Storage=306 cf Inflow=2.03 cfs 8,072 cf
Discarded=0.00 cfs 312 cf Primary=1.89 cfs 7,748 cf Outflow=1.89 cfs 8,060 cf

Pond 2P: Paver Base Peak Elev=13.78' Storage=96 cf Inflow=0.05 cfs 216 cf
Discarded=0.00 cfs 216 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 216 cf

Link DP1: Design Point 1 Inflow=2.63 cfs 10,730 cf
Primary=2.63 cfs 10,730 cf

Total Runoff Area = 16,500 sf Runoff Volume = 11,271 cf Average Runoff Depth = 8.20"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

Summary for Subcatchment 1S: To Infiltrators

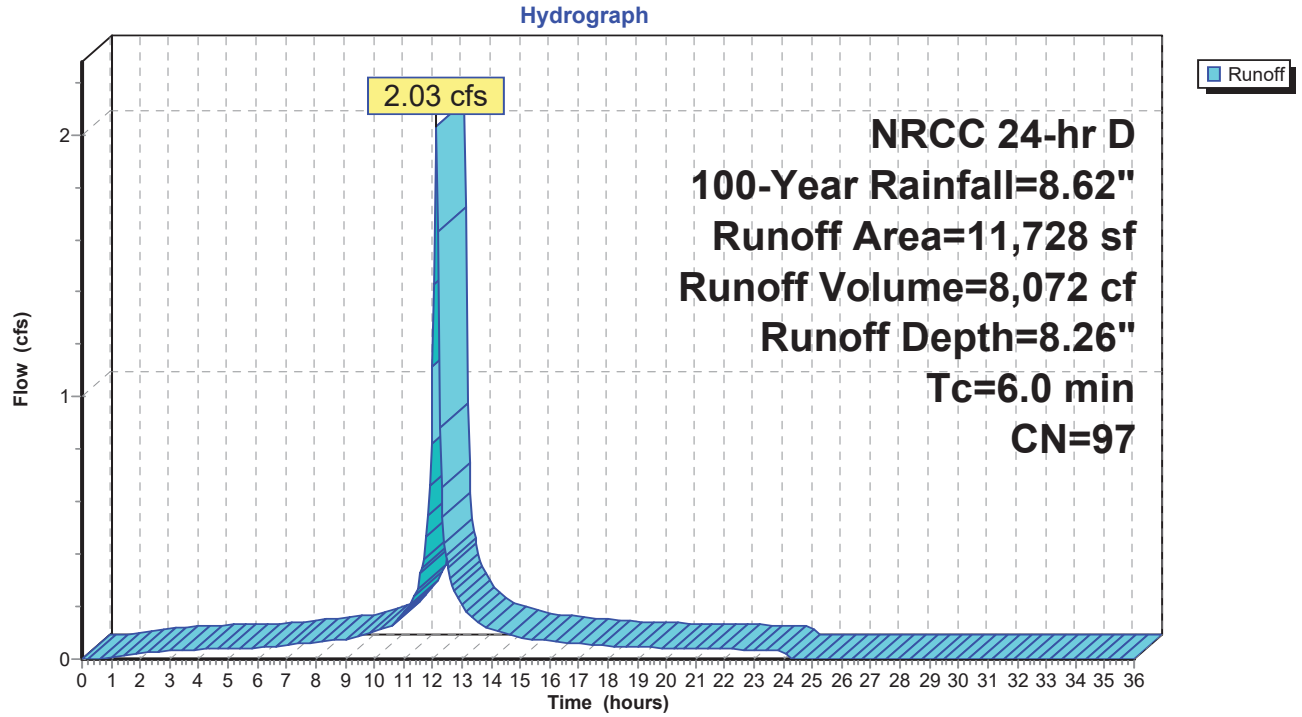
Runoff = 2.03 cfs @ 12.13 hrs, Volume= 8,072 cf, Depth= 8.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 1S: To Infiltrators



Summary for Subcatchment 2S: Porous Pavers

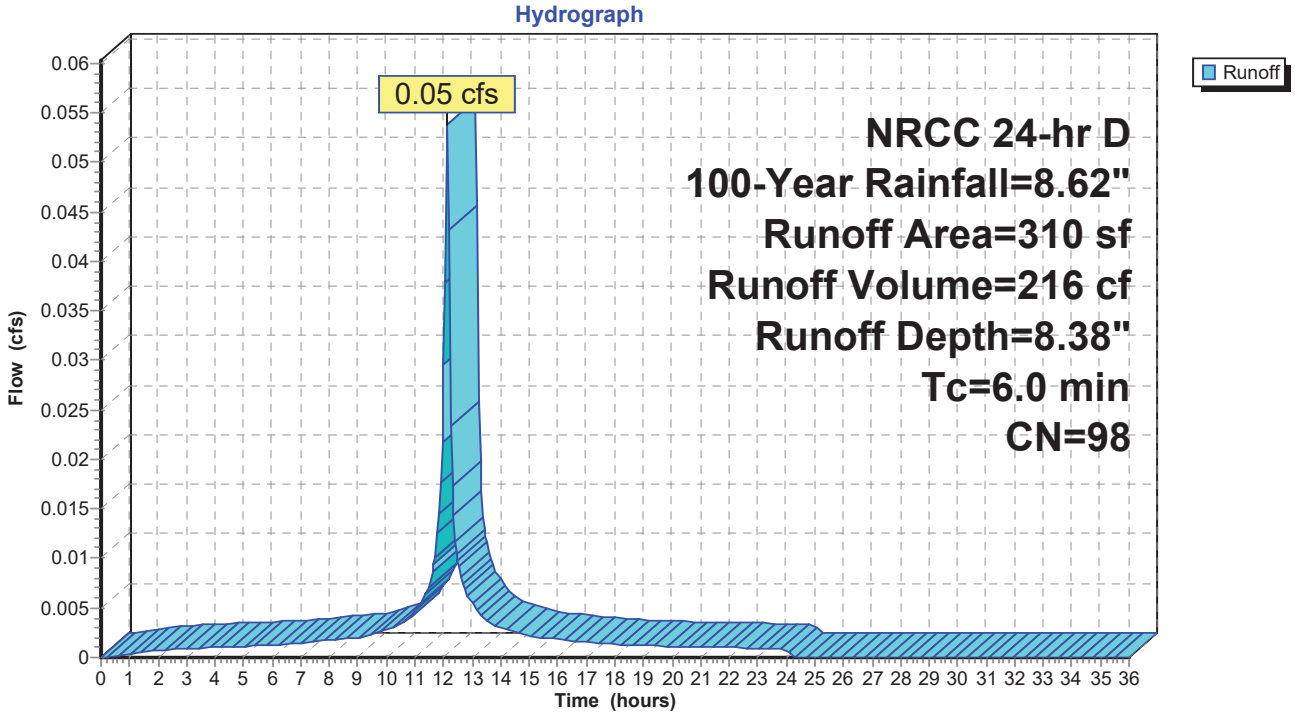
Runoff = 0.05 cfs @ 12.13 hrs, Volume= 216 cf, Depth= 8.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 2S: Porous Pavers



Summary for Subcatchment 3S: Uncollected

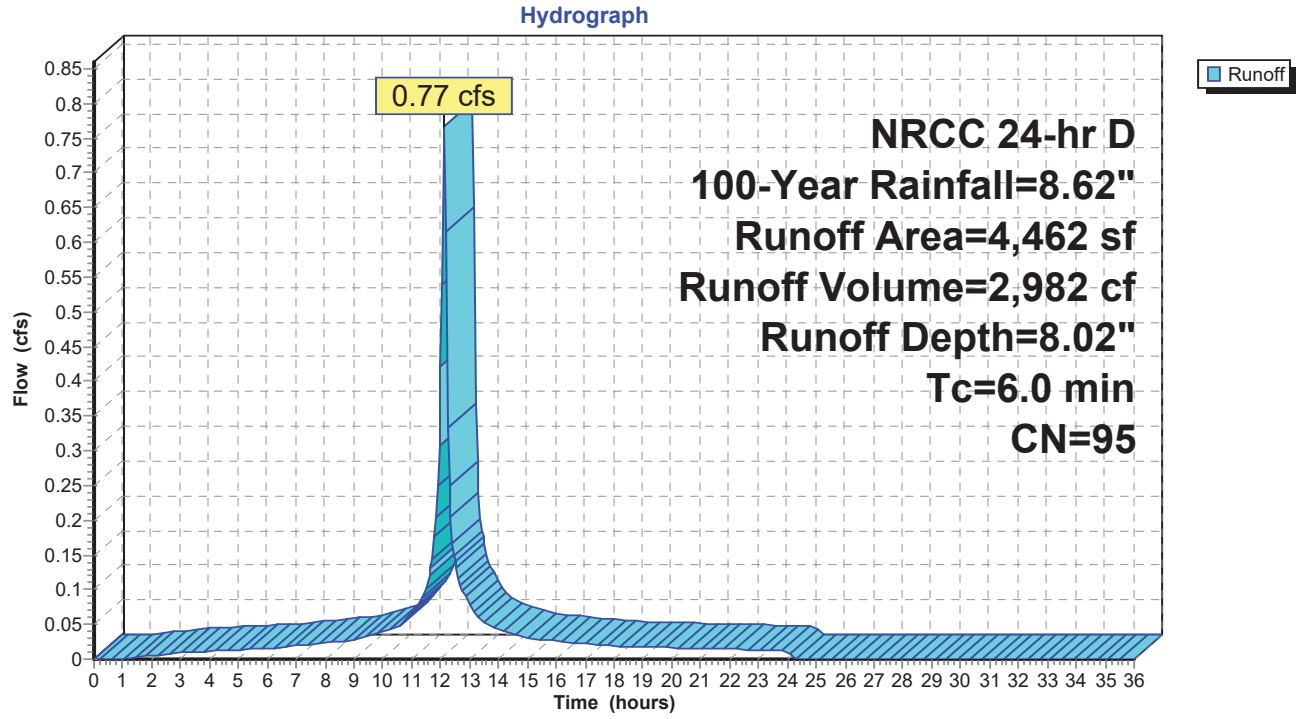
Runoff = 0.77 cfs @ 12.13 hrs, Volume= 2,982 cf, Depth= 8.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Direct Entry**

Subcatchment 3S: Uncollected



Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 8.26" for 100-Year event
Inflow = 2.03 cfs @ 12.13 hrs, Volume= 8,072 cf
Outflow = 1.89 cfs @ 12.15 hrs, Volume= 8,060 cf, Atten= 7%, Lag= 1.6 min
Discarded = 0.00 cfs @ 12.15 hrs, Volume= 312 cf
Primary = 1.89 cfs @ 12.15 hrs, Volume= 7,748 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 11.46' @ 12.15 hrs Surf.Area= 201 sf Storage= 306 cf

Plug-Flow detention time= 22.2 min calculated for 8,049 cf (100% of inflow)
Center-of-Mass det. time= 22.1 min (770.2 - 748.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	**6.25'W x 32.10'L x 3.50'H Field A** 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	**ADS_StormTech SC-740 +Cap** x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	**8.0" Round Overflow** L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.15 hrs HW=11.43' (Free Discharge)
↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=1.87 cfs @ 12.15 hrs HW=11.43' (Free Discharge)
↑**2=Overflow** (Inlet Controls 1.87 cfs @ 5.37 fps)

Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

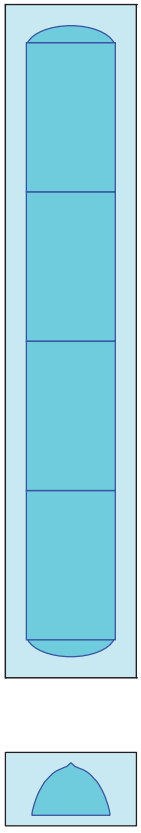
4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length
1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

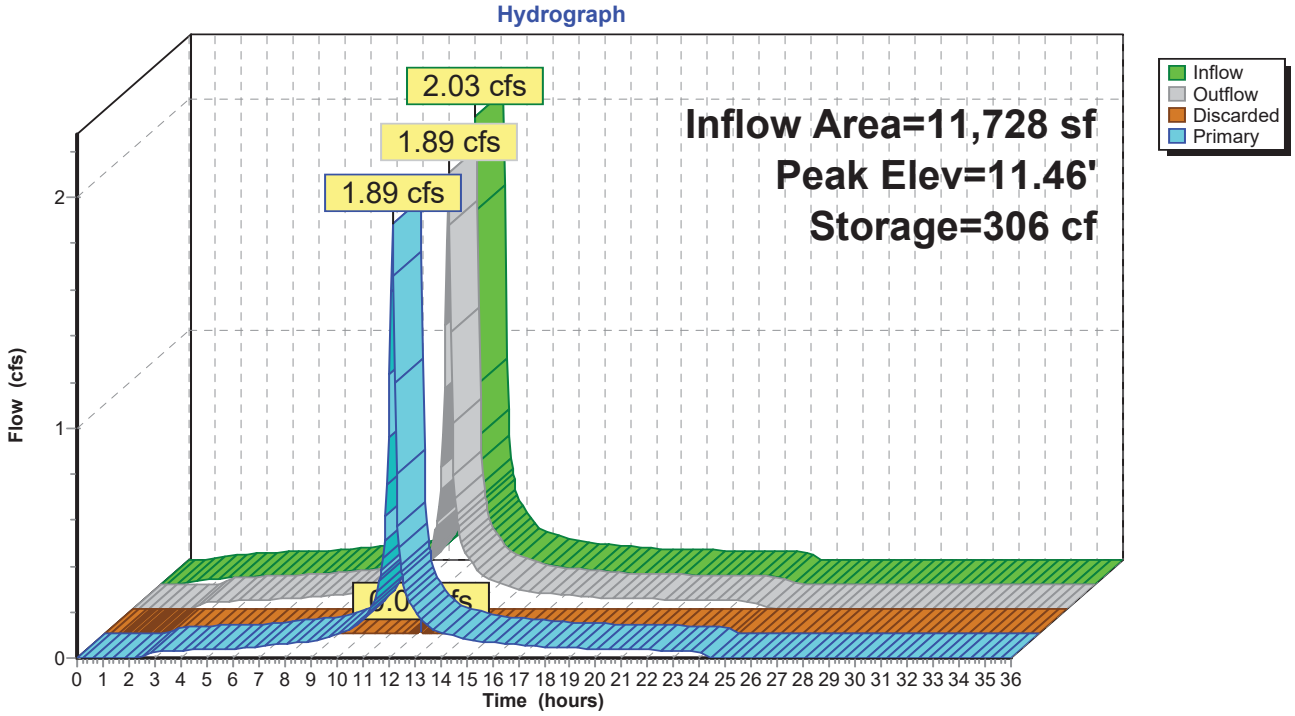
702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af
Overall Storage Efficiency = 48.3%
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ $ 300.00 /ea = $ 1,200.00
26.0 cy Field Excavation @ $ 30.00 /cy = $ 780.13
19.2 cy Stone @ $ 30.00 /cy = $ 575.95
Total Cost = $ 2,556.08



Pond 1P: Infiltration



Summary for Pond 2P: Paver Base

Inflow Area = 310 sf,100.00% Impervious, Inflow Depth = 8.38" for 100-Year event
Inflow = 0.05 cfs @ 12.13 hrs, Volume= 216 cf
Outflow = 0.00 cfs @ 14.82 hrs, Volume= 216 cf, Atten= 96%, Lag= 161.7 min
Discarded = 0.00 cfs @ 14.82 hrs, Volume= 216 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 13.78' @ 14.82 hrs Surf.Area= 310 sf Storage= 96 cf

Plug-Flow detention time= 360.7 min calculated for 216 cf (100% of inflow)
Center-of-Mass det. time= 360.6 min (1,102.3 - 741.7)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	**Stone storage (Prismatic)**Listed below (Recalc) 388 cf Overall x 30.0% Voids

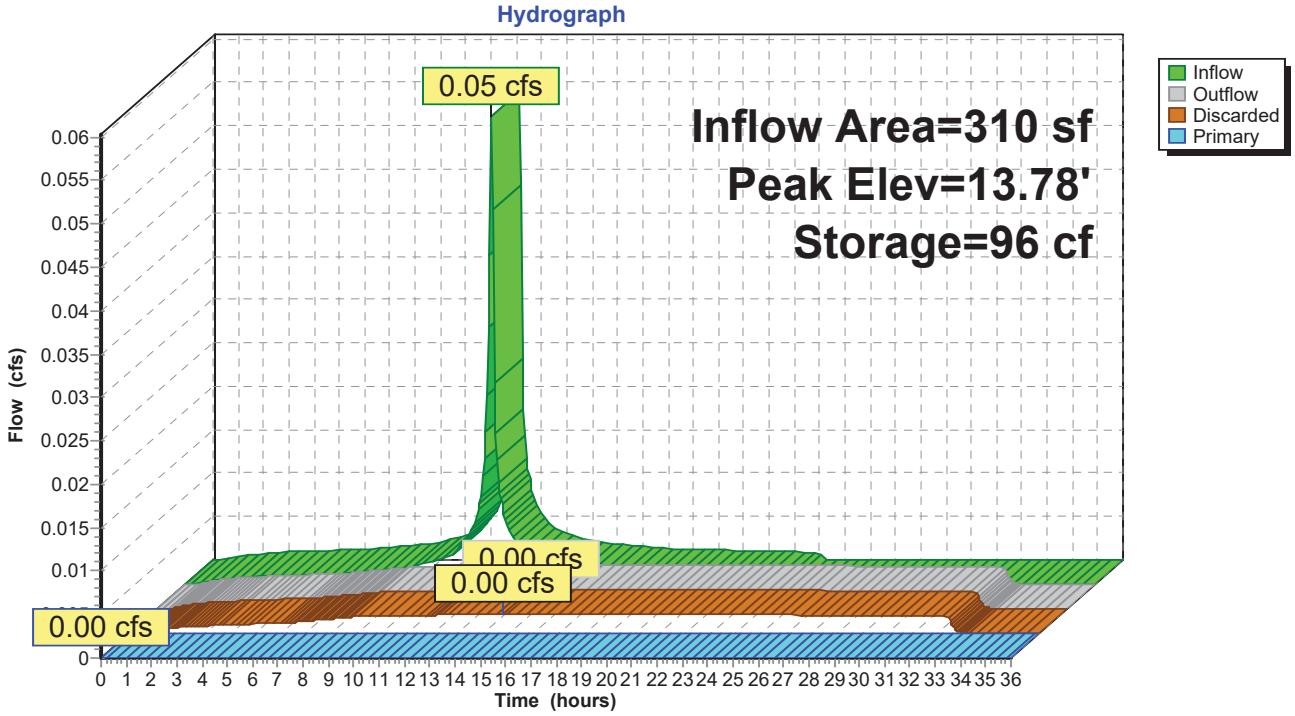
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	**Automatic Storage Overflow** (Discharged without head)
#1	Discarded	12.75'	**0.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 14.82 hrs HW=13.78' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

Pond 2P: Paver Base

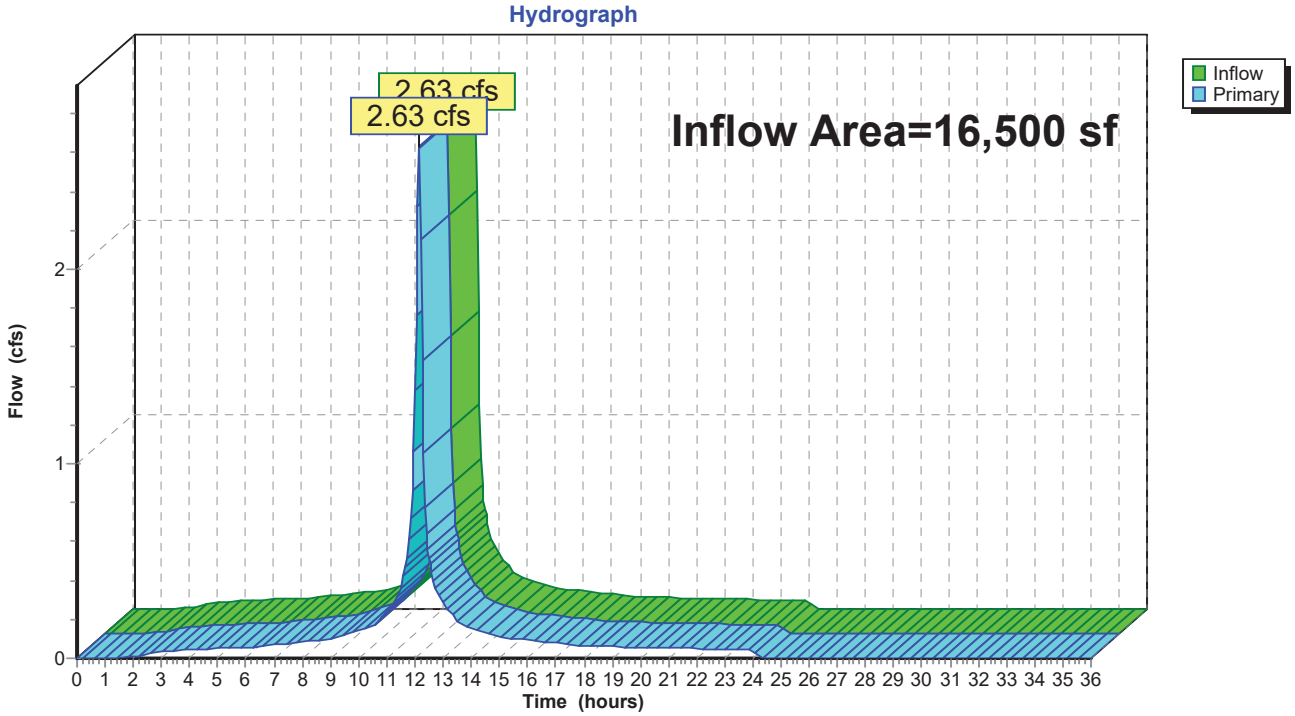


Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 7.80" for 100-Year event
Inflow = 2.63 cfs @ 12.14 hrs, Volume= 10,730 cf
Primary = 2.63 cfs @ 12.14 hrs, Volume= 10,730 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP1: Design Point 1

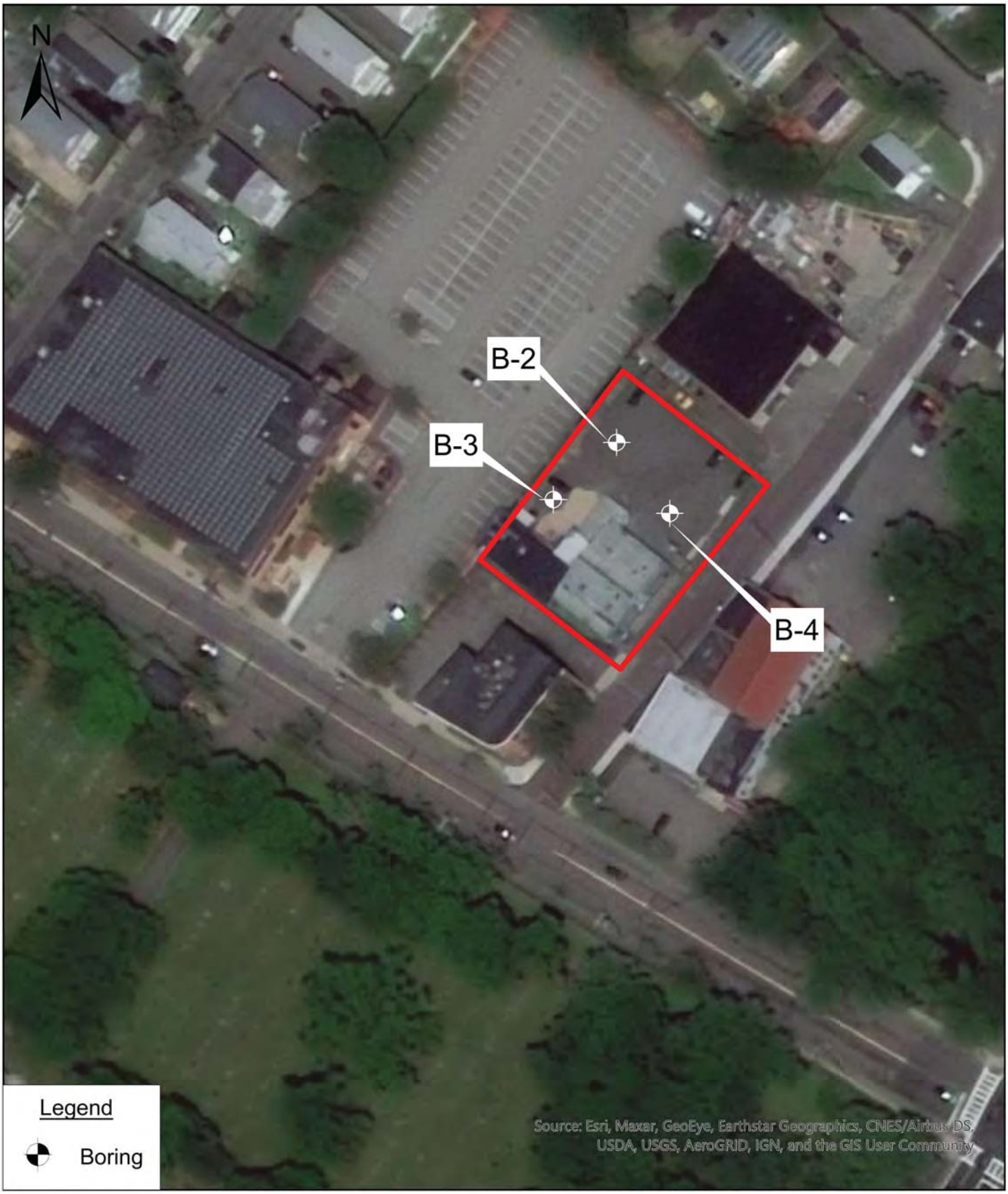


APPENDIX B

STANDARD 3 – SUPPORTING INFORMATION

Included in this section:

- Water Quality Recharge Calculations
- Boring Logs



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Title: Figure 1
Boring Location Plan

Date: October 19, 2020

Project: Column Health
Offices and Residents
10 Sunnyside Avenue
Arlington, MA 02474

Job Number: 1620000049

BORING LOG

Project:	**Cloumn Health Offices & Residents**		
Location:	**10 Sunnyside Ave**		
Client:	**Column Health LLC**		
Driller:	**Soil Exploration**		
Drilling Methods:	**Hollow Stem Auger**		
Weather:	**47, Partly Cloudy**		
Performed By:	**MRG**	Date: **10/19/2020**	
Checked By:	**MFC**	Date:	

EBI Consulting

Boring No:	**B-2**
Location:	
Approx. Ground Elevation:	**7 ft**
Approx. Groundwater Elevation:	
Date/Time of Groundwater Elevation:	
Datum:	**NAVD88**
Project No.	**1620000050**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*STRATUM*	*Note No.*
1	S-1	5 6 6 6	18"/24"	S-1 Grey, Fine to Medium SAND some SILT, Medium Dense, Damp. (SM)			
2							
3	S-2	12 7 9 11	19"/24"	S-2a 4" Grey, SILT, Wet. S-2b Brown, Fine to Medium SAND some SILT, Medium Dense, Damp.			
4							
5							
6	S-3	WOR/24"	7"/24"	S-3 Grey, Fine SAND, some Silt, Loose, Wet. (SM)			1
7							
8							
9							
10						GLACIAL OUTWASH	
11	S-4	WOH/12" 1 1	24"/24"	S-4 Grey, SILT trace Fine Sand, Loose, Wet. (ML)			2
12							
13							
14							
15							
16							
17							
18							
19							

NOTES:

1. WOR - Weight of Rod
2. WOH - Weight of Hammer

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	**Cloumn Health Offices & Residents**		
Location:	**10 Sunnyside Ave**		
Client:	**Column Health LLC**		
Driller:	**Soil Exploration**		
Drilling Methods:	**Hollow Stem Auger**		
Weather:	**47, Partly Cloudy**		
Performed By:	**MRG**	Date: **10/19/2020**	
Checked By:	**MFC**	Date:	

EBI Consulting

Boring No:	**B-2**
Location:	
Approx. Ground Elevation:	**7 ft**
Approx. Groundwater Elevation:	
Date/Time of Groundwater Elevation:	
Datum:	**NAVD88**
Project No.	**1620000050**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*STRATUM*	*Note No.*
21							
22							
23							
24							
25		8		S-5 Grey, Fine to Coarse SAND, some Silt,			
26	S-5	9	22"/24"	Medium Dense, Wet. (SM)			
27		10 20					
28						GLACIAL OUTWASH	
29							
30		5		S-6 Grey, Similar to S-5, Loose, Damp.			
31	S-6	8	17"/24"				
32		10 13					
33							
34							
35		15		S-7 Grey, Similar to S-6, Dense, Wet.			
36	S-7	14	14"/24"				
37		20 26				Boring Terminated at 37 Feet	
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

>30 Fine Soil N Value - Hard

BORING LOG

Project:	**Cloumn Health Offices & Residents**		
Location:	**10 Sunnyside Ave**		
Client:	**Column Health LLC**		
Driller:	**Soil Exploration**		
Drilling Methods:	**Hollow Stem Auger**		
Weather:	**40, Cloudy**		
Performed By:	**MRG**	Date:	**10/19/2020**
Checked By:	**MFC**	Date:	

EBI Consulting

Boring No:	**B-3**
Location:	
Approx. Ground Elevation:	**7 ft**
Approx. Groundwater Elevation:	
Date/Time of Groundwater Elevation:	
Datum:	**NAVD88**
Project No.	**1620000050**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*STRATUM*	*Note No.*
1	S-1	5 5 3 3	12"/24"	S-1 Tan, SILT and Gravel, loose, Wet. (ML)			
2							
3							
4							
5							
6	S-2	2 2 2 2	22"/24"	S-2 Tan, SILT, Loose, Wet. (ML)			
7							
8							
9							
10						GLACIAL OUTWASH	
11	S-3	1 2 2 3	24"/24"	S-4 Grey, Similar to S-2, Loose, Wet.			
12							
13							
14							
15							
16							
17							
18							
19							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	**Cloumn Health Offices & Residents**		
Location:	**10 Sunnyside Ave**		
Client:	**Column Health LLC**		
Driller:	**Soil Exploration**		
Drilling Methods:	**Hollow Stem Auger**		
Weather:	**40, Cloudy**		
Performed By:	**MRG**	Date:	**10/19/2020**
Checked By:	**MFC**	Date:	

EBI Consulting

Boring No:	**B-3**
Location:	
Approx. Ground Elevation:	**7 ft**
Approx. Groundwater Elevation:	
Date/Time of Groundwater Elevation:	
Datum:	**NAVD88**
Project No.	**1620000050**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*STRATUM*	*Note No.*
21							
22							
23						GLACIAL OUTWASH	
24							
25		5		S-4 Medium Dense.			
26	S-4	8	0"/24"				
27		8 14				Boring Terminated at 37 Feet	
28							
29							
30				-			
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

BORING LOG

Project:	**Cloumn Health Offices & Residents**		
Location:	**10 Sunnyside Ave**		
Client:	**Column Health LLC**		
Driller:	**Soil Exploration**		
Drilling Methods:	**Hollow Stem Auger**		
Weather:	**57, Sunny**		
Performed By:	**MRG**	Date:	**10/19/2020**
Checked By:	**MFC**	Date:	

EBI Consulting

Boring No:	**B-4**
Location:	
Approx. Ground Elevation:	**7 ft**
Approx. Groundwater Elevation:	
Date/Time of Groundwater Elevation:	
Datum:	**NAVD88**
Project No.	**1620000050**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*STRATUM*	*Note No.*
1	S-1	5 6 6	19"/24"	S-1a 2" Fill. S-1B CLAY some Fine to Coarse GRAVEL, Brown, Medium Dense, Damp. (OH)	0.17	FILL	
2		4					
3	S-2	3 2 2	17"/24"	S-2 CLAY some Fine to Medium SAND, Brown, Loose, Wet.			
4		3					
5							
6	S-3	2 3	18"/24"	S-3 Fine to Medium SAND some CLAY, Brown, Loose, Wet.			
7		2 3					
8	S-4	5 3 2	17"/24"	S-4 Same as S-3, Brown, Loose, Wet.			
9		1					
10							
11	S-5	4 6	23"/24"	S-4 Similar to S-3, Grey, Loose, Wet. S-5b Fine SAND trace SILT, Brown, Loose, Saturated.		GLACIAL OUTWASH	
12		4 6					
13							
14							
15							
16	S-6	5 7 13	19"/24"	S-6a 6" CLAY. (OH) S-6b Similar to S-5b, trace CLAY, Grey, Medium Dense, Wet.			
17		15					
18							
19							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff

>30 Fine Soil N Value - Hard

BORING LOG

Project:	**Cloumn Health Offices & Residents**		
Location:	**10 Sunnyside Ave**		
Client:	**Column Health LLC**		
Driller:	**Soil Exploration**		
Drilling Methods:	**Hollow Stem Auger**		
Weather:	**57, Sunny**		
Performed By:	**MRG**	Date:	**10/19/2020**
Checked By:	**MFC**	Date:	

EBI Consulting

Boring No:	**B-4**
Location:	
Approx. Ground Elevation:	**7 ft**
Approx. Groundwater Elevation:	
Date/Time of Groundwater Elevation:	
Datum:	**NAVD88**
Project No.	**1620000050**

Depth (feet)	*Sample No.*	*Blows per 6-inch*	*Pen./ Rec.*	*Soil Description*	*Stratum Change Depth (feet)*	*STRATUM*	*Note No.*
21	S-7	5 12 15 20	16"/24"	S-7 Fine to Coarse GRAVEL, little Fine to Coarse SAND, Brown, Medium Dense, Wet.			
22							
23							
24							
25							
26	S-8	10 26 29 33	16"/24"	S-8a 5" Fine to Medium SAND S-8b Fine to Coarse GRAVEL, trace fine to Coarse SAND, Brown, Very Dense, Wet.			
27							
28							
29						GLACIAL OUTWASH	
30							
31	S-9	9 12 13 19	14"/24"	S-4 Similar to S-3, Grey, Loose, Wet. Brown, Medium Dense, Wet.			
32							
33							
34							
35							
36	S-10	14 24 54 73	10"/24"	S-10 CLAY and Fine to Coarse GRAVEL, Brown, Very Dense, Wet.			
37						Boring Terminated at 37 Feet	
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers	
UT - Undisturbed Tube Sample		
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%	
Little - Approximately 10 to 20%	And - Approximately 35 to 50%	
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense	
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense	
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff	>30 Fine Soil N Value - Hard
4-8 Fine Soil N Value - Medium Stiff	15-30 Fine Soil N Value - Very Stiff	

APPENDIX C

STANDARD 4 – SUPPORTING INFORMATION

Included in this section:

- Long-Term Pollution Prevention Plan

LONG-TERM POLLUTION PREVENTION PLAN

The purpose of the Long-Term Pollution Prevention Plan (LTPPP) is to identify potential sources of pollution that may affect the quality of stormwater discharges, and to describe the implementation of practices to reduce potential pollutants in stormwater discharge. The owner and/or its designee are responsible for adherence to the operation and maintenance plan in a rigorous and complete manner. This LTPPP has been prepared in accordance with Standard 4 of the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards.

The Site Plans for Post at 10 Sunnyside Avenue in Arlington, MA and the Stormwater Operation and Maintenance Plan are made part of this LTPPP by reference.

Stormwater Management System Owner:
Column Health, LLC
339 Massachusetts Avenue
Arlington, MA 02474
617-539-6780

Emergency Contact Information:
EBI Consulting, Inc. – Telephone: 781-273-2500 x1304

The following maintenance program is proposed to ensure the continued effectiveness of the structural water quality controls proposed as part of the development of 10 Sunnyside Avenue in Arlington, MA. The maintenance program is also developed specifically for the proposed use as a mixed-use development.

MAINTENANCE OF PAVEMENT SYSTEMS

Regular maintenance of pavement surfaces will prevent pollutants such as oil and grease, trash, and sediments from entering the stormwater management system. The following practices should be performed:

- Utilize high efficiency vacuum sweepers to sweep and vacuum asphalt pavement areas seasonally. Dispose of collected materials in accordance with appropriate local, state and federal regulations.
- Check loading and dumpster areas frequently for spillage and/or pavement staining and clean as necessary.
- Routinely pick up and remove litter from the parking areas, islands, and perimeter landscaping.

MAINTENANCE OF VEGETATED AREAS

Proper maintenance of vegetated areas can prevent the pollution of stormwater runoff by controlling the source of pollutants such as suspended sediments, excess nutrients, and chemicals from landscape care products. Practices that should be followed under the regular maintenance of the vegetated landscape include:

- Inspect planted areas on a semi-annual basis and remove any litter.
- Maintain planted areas adjacent to pavement to prevent soil washout.
- Immediately clean any soil deposited on pavement.
- Re-seed bare areas; install appropriate erosion control measures when native soil is exposed or erosion channels are forming.
- Plant alternative mixture of grass species in the event of unsuccessful establishment.
- Grass vegetation should not be cut to a height less than four inches.
- Pesticide/Herbicide Usage
    - No pesticides are to be used unless a single spot treatment is required for a specific control application.

  - No herbicides shall be applied within 100-feet of any wetland or stream.
- Fertilizer usage should be avoided. If deemed necessary, slow release, phosphorous-free fertilizer with low nitrogen content should be used in moderation. Fertilizer may be used to begin the establishment of vegetation in bare or damaged areas but should not be applied on a regular basis unless necessary.

MANAGEMENT OF SNOW AND ICE

Storage and Disposal

A private contractor will be hired to remove snow and discard off site.

Salt and Deicing Chemicals

The amount of deicing chemicals to be used on the site shall be reduced to the minimum amount needed to provide safe pedestrian and vehicle travel. The following practices should be followed to control the amount of deicing materials that come into contact with stormwater runoff:

- Devices used for spreading deicing chemicals should be capable of varying the rate of application based on the site specific conditions.
- No oil or sodium chloride shall be used during or after construction for the control of dust or ice and snow.
- Alternate materials should be used in place of standard salt and deicing chemicals.
- Sand should be stockpiled under covered storage facilities that prevent precipitation and adjacent runoff from coming in contact with the deicing materials.

APPENDIX D

STANDARD 8 – SUPPORTING INFORMATION

Included in this section:

- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan
- Construction Best Management Practices Maintenance Checklist

CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN

The following erosion and sedimentation controls are for use during the demolition, earthwork, and construction phases of the redevelopment of **10 Sunnyside Avenue in Arlington, MA**. Attached to this plan is a Construction Best Management Practices Maintenance Checklist for use during the demolition, earthwork, and construction phases of the project. This Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan has been prepared in accordance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards and the Town of Arlington Stormwater Management Standards.

Erosion and sedimentation controls shall be installed and maintained as identified on the Site Plans for Post at 10 Sunnyside Avenue, Arlington, MA.

Responsible Party for Plan Compliance:
Column Health, LLC
339 Massachusetts Avenue
Arlington, MA 02474
617-539-6780

Emergency Contact Information:
EBI Consulting, Inc. – Telephone: 781-273-2500 x1304

EROSION AND SEDIMENTATION CONTROLS

Erosion Control Barriers
Erosion Control Barriers shall be placed at the perimeter of the work area, at the toe of slope and as shown on the plans to prevent sediment laden surface runoff from leaving the Site. The barriers will be replaced as determined by periodic field inspections.

Catch Basin Inlet Protection
Newly constructed and existing catch basins will be protected with silt sacks (where appropriate) or straw bale barriers throughout construction.

Stabilized Construction Exit
A temporary stabilized construction exit will be constructed. A cross slope will be placed at the entrance to direct runoff to a protected catch basin inlet or settling area. If deemed necessary after construction begins, a wash pad may be included to wash off vehicle wheels before leaving the Site.

Vegetative Slope Stabilization
Stabilization of open soil surfaces will be implemented within 14 days after grading or construction activities have temporarily or permanently ceased, unless there is sufficient snow cover to prohibit implementation. Vegetative slope stabilization will be used to minimize erosion on slopes of 3:1 or steeper. Annual grasses, such as annual rye, will be used to ensure rapid germination and production of root mass. Permanent stabilization will be completed with the planting of perennial grasses or legumes. Establishment of temporary and permanent vegetative cover may be provided by hydro-seeding or sodding. A suitable topsoil, good seedbed preparation, and adequate lime, fertilizer and water will be provided for effective establishment of these vegetative stabilization methods. Mulch or hay can be used after permanent seeding to protect soil from the impact of falling rain and to increase the capacity of the soil to absorb water.

Maintenance

- The site contractor will be responsible for implementing each control identified as part of this Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.
- The site contractor will be responsible for inspecting all sediment and erosion controls periodically and after each rainfall event. Records of the inspections shall be prepared and maintained on-site by the contractor.
- Damaged or deteriorated items will be repaired immediately after identification or at the direction of the owner's engineer or the City of Brockton DPW.
- The site contractor shall comply with the General Notes regarding Erosion Control as shown on the Site Plans.
- Sediment shall be removed from behind barriers when it reaches one-half the height of the barrier or as determined by periodic field inspections or manufacturer's recommendations.
- Sediment that is collected in structures shall be disposed of properly and covered if stored on-site.
- The stabilized construction exits shall be inspected weekly. The exits shall be maintained by adding additional clean, angular, durable stone to remove sediment from the tires of construction vehicles when exiting the Site. Adjacent roadways shall be kept clean and swept as needed to avoid deposition of sediment as a result of construction traffic exiting the Site.
- Dust pollution shall be controlled using an on-site water source and/or an approved soil stabilization product.
- Erosion control structures shall remain in place until all disturbed earth has been securely stabilized. After removal of structures, disturbed areas shall be re-graded and stabilized as necessary.

EBI Consulting
environmental | engineering | due diligence

Construction Best Management Practices Maintenance Checklist

Project Name: Proposed Mixed-Use Redevelopment
Project Location: 10 Sunnyside Ave | Arlington, MA
Project Number: 1620000049

Date: 11/18/2020
Calculated By: RLB
Checked By: MFC

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning or Repair Needed (List Items if Required)	Date of Cleaning or Repair	Performed by
Pavement Sweeping	To be monitored as needed			Paved areas within the active construction site can be swept on a regular basis to remove larger sediment particles from construction activities. Pavement areas adjacent to the Site will be swept if dirt and debris is tracked from the active constructions site.			
Catch Basin Inlet Protection (Silt Sack Sediment Trap)	Inspect at least once per week and after each rainstorm of 1-inch or greater.			Inspect for proper operation. If clogged, remove accumulated sediment and properly dispose of to maintain the capacity of the catch basin.			
Silt Sock Barrier	Inspect at least once per week and after each rainstorm of 1-inch or greater.			Inspect periodically and after all storm events. Repair or replacement shall be performed promptly, as needed. Ensure that the filter sock is intact and the area behind the sock is not filled with sediment. If there is excessive ponding behind the filter sock or accumulated sediments reach the top of the sock, an additional sock should be added on top or in front of the existing filter sock without disturbing the soil or accumulated sediment. If the filter sock was overtopped during a storm event, the operator should install an additional filter sock on top of the original or place an additional filter sock further up the slope.			
Stabilized Construction Exit	Inspect at least once per week and after each rainstorm of 1-inch or greater.			The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. The contractor shall sweep or wash pavement at exits which have experienced mud-tracking onto the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate that drains into an approved sediment trapping device. When the construction exit becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on-site in a stable manner. The exit should then be reconstructed. All sediment shall be prevented from entering storm drains, ditches, or waterways.			

Stormwater Supervisor Contact Information: _____

APPENDIX E

STANDARD 9 – SUPPORTING INFORMATION

Included in this section:

- Stormwater Operation and Maintenance (O&M) Plan
- Stormwater Best Management Practices Maintenance Checklist

STORMWATER OPERATION AND MAINTENANCE (O&M) PLAN

The following Stormwater Operation and Maintenance (O&M) Plan is proposed to ensure the continued effectiveness of the stormwater management system designed for the redevelopment of **10 Sunnyside Avenue in Arlington, MA**. This O&M Plan has been developed to provide a comprehensive O&M Plan for the Site, including previously developed procedures and supplementing them with additional inspection and maintenance measures for new stormwater BMPs.

Attached to this plan is a Stormwater Best Management Practices Maintenance Checklist for use during the long term operation and maintenance of the stormwater management system. This Stormwater O&M Plan has been prepared in accordance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards and the Town of Arlington Ordinances.

The Site Plans for Post at 10 Sunnyside Avenue, Arlington, MA dated November 17, 2020 are made part of this Stormwater O&M Plan by reference.

Stormwater Management System Owner:
Column Health, LLC
339 Massachusetts Avenue
Arlington, MA 02474
617-539-6780

Emergency Contact Information:
EBI Consulting, Inc. – Telephone: 781-273-2500 x1304

DESCRIPTION OF STORMWATER MAINTENANCE MEASURES

Deep Sump and Hooded Catch Basins

- All catch basins shall be inspected a minimum of at least four times per year.
- Sediment, if more than two (2) feet deep, and/or floatable pollutants shall be pumped from the basin and disposed of at an approved offsite facility in accordance with all applicable regulations.
- Any structural damage or other indication of malfunction will be reported to the site manager and repaired as necessary.
- During cleanings, confirm the oil/debris trap (hood) is installed properly, is free of clogs, and is functional. Reinstall or replace as needed.
- During colder periods, the catch basin grates must be kept free of snow and ice.
- During warmer periods, the catch basin grates must be kept free of leaves, litter, sand, and debris.

Catch Basin Inserts

- Fabco® StormBasin (or approved equal) inserts are to be inspected semiannually and are to be cleaned in accordance with the manufacturer's maintenance requirements. A copy of the manufacturer's maintenance guidelines are provided in this report.

Roof Drain Leaders

- Perform routine roof inspections twice per year, typically in the spring and fall.
- Inspect for blockage and remove debris if required.
- Keep roofs clean and free of debris.
- Keep roof drainage systems clear.
- Keep roof access limited to authorized personnel.

Subsurface Infiltration System

- See the attached Manufacturer's instructions on operation and maintenance requirements and methodology.
- Perform routine inspections on a monthly basis for the first three months after installation. Then, at a minimum, the treatment structure is to be inspected twice annually and the infiltrating structure is to be inspected annually.
- The subsurface infiltration system will be inspected twice during for the first year and annually thereafter by removing the manhole/access port covers and determining the thickness of sediment that has accumulated.
- If sediment is more than two inches deep, it must be suspended via flushing with clean water and removed using a vactor truck.
- Emergency overflow pipes will be examined at least once each year and verified that no blockage has occurred.

Pavement Sweeping of Parking Lot

- Sweeping of pavement shall be conducted seasonally at least four times per year, or more often as necessary to minimize accumulation of sediment and other debris in catch basins and the detection basins.

EBI Consulting
environmental | engineering | due diligence

Stormwater Best Management Practices Maintenance Checklist

Project Name: Proposed Mixed-Use Red\evelopment
Project Location: 10 Sunnyside Ave |Arlington, MA
Project Number: 1620000015

Date: 11/17/2020
Calculated By: RLB
Checked By: MFC

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning or Repair Needed (List Items if Required)	Date of Cleaning or Repair	Performed by
Pavement Sweeping	Inspect twice per year, typically in the spring and fall.			Paved areas will be swept at least twice per year or as needed, primarily in the spring and/or fall with vacuum truck or similar.			
Deep Sump and Hooded Catch Basins	Inspect four times per year. Clean four times per year, in the spring and fall, or whenever sediment buildup exceeds two (2) feet in depth.			Remove trash and deposits. During cleanings, confirm the oil/debris trap (hood) is installed properly, is free of clogs, and is functional. Reinstall or replace as needed. Take care not to damage the oil/debris trap (hood) during cleaning.			
Roof Drain leaders	Inspect twice per year, typically in the spring and fall.			Inspect for blockage and remove debris if required.			
Subsurface Infiltration System	Inspect monthly for the first three months. Then, at a minimum, the treatment structure is to be inspected twice annually and the infiltrating structure is to be inspected annually as required by the manufacturer.			Inspect the system twice in the first year for proper function. Remove sediment once per year or when buildup exceeds two (2) inches in depth.			

Stormwater Supervisor Contact Information: _____

_____

APPENDIX F

HYDRAULIC ANALYSIS – SUPPORTING INFORMATION

Included in this section:

- Storm Drainage Calculations

EBI Consulting
environmental | engineering | due diligence

Storm Drainage Calculations

Project Name: Proposed Redevelopment
Project Location: 10 Sunnyside Ave, Arlington, MA
Project Number: 1620000049

Date: 11/17/2020
Calculated by: RLB
Checked by: MFC

Design Parameters:
25 **Year Storm** Boston **IDF Curve**

k_e= **0.5**

DESCRIPTION	LOCATION		AREA	C	C x A	SUM	FLOW TIME (MIN)		i*	DESIGN					CAPACITY		PROFILE							INLET CONTROL		OUTLET CONTROL			JUNCTION LOSSES		
	FROM	TO	(AC.)			C x A	PIPE	CONC TIME		Q	V	n	PIPE SIZE	SLOPE	Q full	V full	LENGTH	FALL	RIM	INV UPPER	INV LOWER	W.S.E.	Freeboard	HW/D	HW	H	TW or h_o	HW	K_m	K_d	H loss
										cfs	fps				ft^3/s	ft/s	ft	ft				ft	ft	ft	ft	ft	ft	ft	junction	junction	junction
	CB-1	Infiltration Basin	0.063	0.83	0.05	0.05	0.28	6.0	5.7	0.3	3.2	0.011	8	0.017	1.9	5.4	53	0.92	14.75	11.75	10.83	11.6	3.1	0.00	0.00	0.0	0.0	0.00	0.20	0.00	0.03
	CB-2	Infiltration Basin	0.195	0.95	0.19	0.19	0.02	6.0	5.7	1.1	4.6	0.011	8	0.017	1.8	5.3	6	0.10	13.27	9.25	9.15	9.0	4.3	0.00	0.00	0.0	0.0	0.00	0.20	0.00	0.07
	CB-2	Main	0.258	0.92	0.24	0.24	0.11	6.0	5.7	1.4	4.3	0.011	8	0.010	1.4	4.1	27	0.27	13.27	9.50	9.23	9.3	4.0	0.00	0.00	0.0	0.0	0.00	0.20	0.00	0.06

Town of Arlington, Massachusetts

Department of Planning & Community Development

730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum - Update

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, Docket #3646
1416-1420 Massachusetts Avenue

Date: March 11, 2021

This memo is provided as an update to the last memo provided on February 17, 2021. The following items have been updated pursuant to this application:

- Cover letter to Erin Zwirko, dated March 8, 2021, including a narrative;
- Proposed Site Plan, prepared by Bohler Engineering, dated January 21, 2021, revised March 5, 2021;
- Architectural Elevation, prepared BKA Architects, dated March 8, 2021;
- Sign Package, prepared by AGI, dated January 12, 2021, revised January 14, 2021;
- Proposed Floor Plan, prepared by Citizens, dated March 5, 2021; and
- LEED Narrative & Checklist, prepared by BKA Architects, dated March 8, 2021.

These items address the following items discussed by the Board:

- Reorientation of the building toward Massachusetts Avenue and improvement of the façade;
- Reduce the amount of parking to increase open space;
- Identify the interior space for bicycle storage;
- Improve the LEED score;
- Update signage plan; and
- Consider planting additional trees.

The applicant will report on considering solar panels for the building and discussion with the Engineering Division regarding the stormwater management system during the hearing.

Should the Board make a decision on the EDR application, the following findings and conditions are recommended:

Findings

1. The ARB finds that the project is consistent with Environmental Design Review per Section 3.4 of the Zoning Bylaw.

General Conditions

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board at the time when future operators are identified. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board

2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.

3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.

4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.

5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with the Town Bylaws.

6. Upon installation of landscaping materials and other site improvements, the owner shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.

7. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.

Town of Arlington, Massachusetts

Department of Planning & Community Development

730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 1416-1420 Massachusetts Avenue, Arlington, MA Docket #3646

Date: February 17, 2021

I. Docket Summary

This is an application by 1420 Massachusetts Avenue, LLC, c/o Bierbrier Development, 420 Bedford Street, Lexington, MA, to reconstruct the Citizens Bank and make other site improvements at 1416-1420 Massachusetts Avenue, Arlington, MA in the B4 Vehicular Oriented Business District. The opening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review, and Section 6.2, Signs.

Materials submitted for consideration of this application:

- Application for EDR Special Permit;
- Proposed Site Plan Documents, prepared by Bohler Engineering, dated January 21, 2021;
- Conceptual Elevations, prepared by BKA Architects, dated January 20, 2021;
- Drainage Memorandum, prepared by Bohler Engineering, dated January 21, 2021;
- Sign Submittal Package, prepared by AGI, revised January 14, 2021.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

A bank with more than 2,000 square feet of gross floor area with drive-up banking services requires a special permit. A bank has operated at this location since 1977. The Board can find that this condition is met.

2. **Section 3.3.3.B.**
   The requested use is essential or desirable to the public convenience or welfare.

   The banking use is essential and desirable for the public convenience and welfare. The continuation of the use and the upgrades to the building and site are in the public's interest. The Board can find this condition is met.

3. **Section 3.3.3.C.**
   The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

   The existing traffic and circulation patterns at the site will remain the same. The fifteen off-street parking spaces will be retained. Pedestrian safety will be improved through the creation of an ADA compliant pathway from the sidewalk to the bank entrance. The plaza at the edge of the sidewalk is inviting and provides space for pedestrians to rest. The Board can find this condition is met.

4. **Section 3.3.3.D.**
   The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

   A bank has operated in this location since the 1970s and will not overload any municipal systems. There is a decrease in impervious surfaces associated with the reconstruction of the Citizens Bank. Currently, most stormwater water flows into the municipal system. The new design will detain roof runoff onsite to the south of the building. The Board can find this condition met.

5. **Section 3.3.3.E.**
   Any special regulations for the use as may be provided in the Bylaw are fulfilled.

   There are no special regulations for this particular use. The Board can find this condition met.

6. **Section 3.3.3.F.**
   The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The continuation of the bank use, a use that has existed onsite since the late 1970s, will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health and welfare. The Board can find this condition is met.

7. **Section 3.3.3.G.**
   The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

   The use will not be in excess or detrimental to the character of the neighborhood. The Board can find this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. **EDR-1 Preservation of Landscape**
   The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

   The existing site condition is developed. The landscaping around the perimeter of the site will remain in its current state. With the reconstruction of the building, new landscaping will be installed around the new building and down to the sidewalk. The Board can find this condition met.

2. **EDR-2 Relation of the Building to the Environment**
   Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

   The building will be reconstructed in general the same location as the existing building. The proposed one-story building provides some visual interest with the over-height entrance, but the long façade facing Massachusetts Avenue may not be an improvement from the pedestrian-oriented entrance of the existing bank building. The addition of the plaza at the sidewalk will be an asset to the Arlington Heights business district, provides seating and bicycle parking, and provides a connection between the front door of the bank and the public sidewalk.

3. **EDR-3 Open Space**
   All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open

space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

The landscaped open space requirement is 10% for this permitted use. The amount of landscaped open space will increase from 23% to 28% with the proposed reconstruction of the building. The Board can find that this condition is met.

4. **EDR-4 Circulation**

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The existing 15 parking spaces will be retained onsite. The existing building at 4,366 square feet required 15 parking spaces, but the new building at 2,400 square feet only requires 8 parking spaces. The bank should consider further reducing the amount of impervious surfaces on the site by eliminating some of the parking, especially due to the availability of on-street parking on Massachusetts Avenue in the business district.

The circulation on the site remains the same, and the elimination of the canopy and islands will eliminate any potential for property damage. The circulation is set 10 feet off of the rear property line and a series of retaining walls negotiate the slope between the property and the residential properties located in the R2 District to the north of the site. Section 5.3.21 requires that there be a 15-foot buffer. Due to the space on the site to the rear of the building and the additional parking spaces that may not be necessary, there may be the ability to provide a buffer in compliance with this section of the Zoning Bylaw.

The site plans indicate that there will be two short-term bicycle parking spaces located off of the plaza at the sidewalk, in compliance with the requirements for short-term bicycle parking. Additionally, the style of bike rack shown in the application materials is discouraged by the Bicycle Parking Guidelines. The applicant should review those Guidelines and select a different type of bike rack. Further, the application materials do not address the compliance with the long-term bicycle parking at the site. At least one long-term bicycle parking space needs to be provided.

5. **EDR-5 Surface Water Drainage**

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce

clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas. In accordance with Section 3.3.4., the Board may require from any Applicant, after consultation with the Director of Public Works, security satisfactory to the Board to ensure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the Applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

A Drainage Memorandum has been prepared for the proposed redevelopment of this site. It does indicate that there is an improvement to runoff rates and volume from the site due to the decrease in impervious surfaces. The existing system will remain in place, although some roof runoff will be directed to landscaped areas on site. The Board can find this condition is met.

6. **EDR-6 Utilities Service**

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

Existing utilities will be reused and upgraded as necessary. The Board can find this condition is met.

7. **EDR-7 Advertising Features**

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The applicant submitted an updated sign package with a number of signs proposed:

1. The existing monument sign will be refaced in compliance with Section 6.2;
2. Two identical wall signs located at either corner of the main entrance of the building measuring 15.625 square feet each;
3. A large Citizens Bank logo on the Massachusetts Avenue windows;
4. Citizens Bank signage on the main entrance doors; and
5. The hours of operation and other information noted on the entrance door is exempt.

The updated signage package removed the wall sign on the drive thru elevation as it was identified as being in excess of the signage allowed by Section 6.2.

The large window logo facing Massachusetts Avenue provides some visual interest and may obscure views looking into the building, but no information is provided to document the size of the logo. The signage on the doors is compliant with Section 6.2.

8. **EDR-8 Special Features**

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

There are no such special features proposed for the site. The Board can find this condition is met.

9. **EDR-9 Safety**

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

As noted in the application materials, security of the bank building was taken into consideration regarding the placement of landscaping around the building and the location of windows. The Board can find this condition is met.

10. **EDR-10 Heritage**

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The existing structure is not listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* nor is it under the jurisdiction of the Arlington Historical Commission. As such, the site contains no historic, traditional or significant uses, structures or architectural elements. The Board can find that this condition is met.

11. **EDR-11 Microclimate**

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to

minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that will impact the microclimate. The Board can find that this condition is met.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

The application materials indicate that the building will meet existing energy codes and will include low-flow plumbing fixtures and efficient appliances. A LEED Checklist was provided and indicates that the project would receive a low level of certification.

IV. Findings

1. The ARB finds that the project is consistent with Environmental Design Review per Section 3.4 of the Zoning Bylaw.

V. Conditions

General

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board at the time when future operators are identified. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board

2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.

3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.

4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.

5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with the Town Bylaws.

6. Upon installation of landscaping materials and other site improvements, the owner shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.

7. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.

352 Turnpike Road
Southborough, MA 01772
508.480.9900

January 22, 2021 *Via hand delivery*

Arlington Redevelopment Board
720 Massachusetts Avenue
Arlington, MA 02476

Attn: Erin Zwirko, Assistant Director, Department of Planning and Community Development

RE: Special Permit Application
Citizens Bank Redevelopment
1420 Massachusetts Avenue
Arlington, MA 02476
Map #173, Block #2 & Lot #4.A

Dear Ms. Zwirko:

On behalf of 1420 Massachusetts Avenue, LLC c/o Bierbrier Development Inc., please find the below enclosed items as part of the Special Permit Application for the proposed Citizens Bank redevelopment at 1420 Massachusetts Avenue. Please note that electronic copies of the below will be submitted under a separate cover.

- Two (2) copies of the Completed and signed Application for Special Permit In Accordance with Environmental Design Review Procedures with attached narrative and site photos;
- Two (2) full size (24"x36") copies of the Proposed Preliminary Site Plan Documents prepared by Bohler dated January 21, 2021;
- Two (2) full size (24"x36") copies of the Architectural Elevations prepared by BKA Architects dated January 20, 2021;
- Two (2) copies of the Drainage Memorandum prepared by Bohler dated January 21, 2021;
- Two (2) copies of the Sign Submittal Package prepared by AGI dated January 12, 2021;
- Check for $980 made payable to the Town of Arlington (check #1065)

We look forward to discussing with the Redevelopment Board during their upcoming meeting on February 22, 2021. Please do not hesitate to contact me at 508-480-9900 should you have any questions or require any additional information regarding this submission.

Sincerely,

BOHLER

Nick Dewhurst Randy Miron

CC: Tom Godfrey, Granite Development, LLC (via email)

TOWN OF ARLINGTON
REDEVELOPMENT BOARD
Application for Special Permit In Accordance with Environmental Design Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address 1416-1420 Mass. Avenue
Name of Record Owner(s) 1420 Mass. Avenue, LLC Phone 781-258-1199
Address of Owner c/o Bierbrier Dev. 420 Bedford St. Lexington, MA 02420
Street City, State, Zip

2. Name of Applicant(s) (if different than above) same
Address _____ Phone _____
Status Relative to Property (occupant, purchaser, etc.) _____

3. Location of Property Map # 173, Block # 2, Lot # 4.A
Assessor's Block Plan, Block, Lot No.

4. Deed recorded in the Registry of deeds, Book 67758, Page 251;
-or- registered in Land Registration Office, Cert. No. _____, in Book _____, Page _____.

5. Present Use of Property (include # of dwelling units, if any) Bank with drive-up

6. Proposed Use of Property (include # of dwelling units, if any) Bank with drive-up

7. Permit applied for in accordance with the following Zoning Bylaw section(s)

section(s)	title(s)
5.5.3	Use Regulations for Business Districts

8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.
Attached

The applicant states that 1420 Mass. Ave., LLC (In the statement below, strike out the words that do not apply) is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 1416-1420 Mass. Avenue which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

CFO, Bierbrier Development
Signature of Applicant(s)

c/o Bierbrier Development
Address 420 Bedford St.
Lexington, MA 02420

781-863-1800 or
Phone 781-258-1199

Updated August 28, 2018

Town of Arlington Redevelopment Board
Application for Special Permit in accordance with
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested. Review the ARB's Rules and Regulations, which can be found at arlingtonma.gov/arb, for the full list of required submittals.

- ✓ Dimensional and Parking Information Form (see attached)
- ✓ Site plan of proposal
- NA Model, if required
- ✓ Drawing of existing conditions
- ✓ Drawing of proposed structure
- ✓ Proposed landscaping. May be incorporated into site plan
- ✓ Photographs
- ✓ Impact statement
- ✓ Application and plans for sign permits
- ✓ Stormwater management plan (for stormwater management during construction for projects with new construction

FOR OFFICE USE ONLY

_____ Special Permit Granted Date: _____

_____ Received evidence of filing with Registry of Deeds Date: _____

_____ Notified Building Inspector of Special Permit filing Date: _____

TOWN OF ARLINGTON
REDEVELOPMENT BOARD
Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see Section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. Preservation of Landscape. The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

2. Relation of Buildings to Environment. Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing to reduce the effect of shadows on abutting property in an R0, R1 or R2 district or on public open space.

3. Open Space. All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.

4. Circulation. With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

5. Surface Water Drainage. Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

   In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

6. Utility Service. Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

7. Advertising Features. The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

8. Special Features. Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

9. Safety. With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

10. Heritage. With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.

11. Microclimate. With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.

12. Sustainable Building and Site Design. Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project. [LEED checklists can be found at http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b]

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw):

1. The use requested is listed as a special permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

2. The requested use is essential or desirable to the public convenience or welfare.

3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.

5. Any special regulations for the use as may be provided in this Bylaw are fulfilled.

6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.

7. The requested use will not, by its addition to a neighborhood, cause an excess of the particular use that could be detrimental to the character of said neighborhood.

TOWN OF ARLINGTON
Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location 1416-1420 Mass. Ave.

Zoning District B4

Owner: 1420 Mass. Ave, LLC

Address: c/o Bierbrier Development, 420 Bedford St., Lexington, MA 02420.

Present Use/Occupancy: No. of Dwelling Units:
Bank with drive-up

Uses and their gross square feet:
4,366 s.f.

Proposed Use/Occupancy: No. of Dwelling Units:
Bank with drive-up

Uses and their gross square feet:
2,400 sf.

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	19,727 sf	no change	min. none
Frontage	158.3'	no change	min. 50'
Floor Area Ratio	.18	.12	max. 1.0
Lot Coverage (%), where applicable	9.2%	12.2%	max. —
Lot Area per Dwelling Unit (square feet)	—	—	min. —
Front Yard Depth (feet)	19.7'	16.3'	min. 0
Side Yard Width (feet) right side	78.4'	73.0'	min. 0
left side	35.4'	30.4'	min. 10'
Rear Yard Depth (feet)	51.4'	51.3'	min. 10'
Height	—		min.
Stories	1 w/ basement	1	stories 3
Feet	17.6'	20'	feet 35'
Open Space (% of G.F.A.)	23.1%	28.0%	min. 10%
Landscaped (square feet)	4,557 sf	5,524 sf	(s.f.)
Usable (square feet)	4,557 sf	5,524 sf	(s.f.)
Parking Spaces (No.)	15	15	min. 8
Parking Area Setbacks (feet), where applicable	—		min.
Loading Spaces (No.)	—		min.
Type of Construction	—		
Distance to Nearest Building	35.4	30.4	min.

Application for Special Permit
Citizens Bank Redevelopment
1416-1420 Mass Ave, Arlington

The property consists of a 19,727 s.f. lot in the B4 Vehicular Oriented Business District.

A Citizens Bank currently occupies the property and a bank use with drive-up has existed on the property since the 1970s pursuant to a 1977 Special Permit. The property also benefits from a 1983 special permit related to signage.

Citizens Bank recently signed a new lease and received federal/state approval to build a new bank branch on the property and close temporarily while the new building is constructed.

The current footprint (building and canopies) totals 2,552 sf and the current building totals 4,236 sf (gross) including a 1,814 sf of basement.

The proposed building is designed as a single story 2,400 sf building in the same location as exists today.

The property and proposed building comply with all dimensional requirements of the B4 Vehicular Oriented Business Zoning District.

The project goals are to upgrade Citizens building with the least impact possible while reducing building size, footprint size and impervious area (increasing open space).

The project involves demolishing the existing building and reconstructing a new, modern energy efficient building in the same location.

The project preserves the perimeter of the site in the same condition that exists today with a limit of work that follows the outer curb line of the parking area. The area around the building will receive new landscaping and a pocket park will be constructed between the building and Mass Ave. A new ADA compliant access way from the sidewalk on Mass Ave to the building will be constructed replacing the existing noncompliant walkway, as well as new ADA compliant parking spaces.

The parking area will be repaved with same number of parking spaces in the same location that exist today. The vehicle entrances and traffic flow will remain the same, with some improvements to striping and signage.

Special Permit Design Review Standards:

Preservation of Landscape – There are no changes to the landscape around the perimeter of the property. New landscaping will be incorporated around the building and a pocket park will be created between the building and Mass Ave.

Relation of Building to the Environment – The building will be reconstructed in the same location as it exists today. The gross square footage of the building, will be reduced from approximately 4,366 sf to

2,400 sf. A pocket park is incorporated into the design to increase connectivity with pedestrians and provide seating and bike parking.

Open Space – Open space will be increased by the removal of pavement thereby decreasing the amount of impervious that exists onsite.

Circulation - The existing traffic patterns and parking will not change. Pedestrian safety will be enhanced by providing an ADA compliant access way from the sidewalk on Mass Ave to the building. A pocket park with bike parking and seating will be created between the building and Mass Ave.

Surface Water Drainage - The existing stormwater system will remain in place. Stormwater runoff rates and volumes generated from the site will be improved when compared to the existing condition due to the decrease in impervious areas. A further breakdown of the stormwater improvements is outlined within the Drainage Memorandum prepared by Bohler.

Utility Service - Existing utilities will be upgraded and reused.

Advertising Features – Site signage (existing free standing sign and directional sign) will remain. Updated building signage is detailed on the sign submittal package.

Special Features - There are no known special regulations applicable to the proposed use.

Safety - The prosed building is designed with two (2) egress doors to facilitate building evacuation and maximizing accessibility for emergency services. Special safety consideration has been incorporated into the landscaping around the building and placement of windows.

Heritage – There are no known historic features on the site.

Microclimate - A landscaped depression will be constructed to accept the stormwater generated by the roof of the building to allow for infiltration and detention and to reduce stormwater runoff rates. In addition, the amount of open space onsite will be increased.

Sustainable Building and Site Design - The proposed building will meet or exceed current building and energy codes and will include roof and wall insulation with high R-values and energy efficient windows. The building will incorporate low-flow plumbing fixtures and efficient appliances.

Criteria for Environmental Design Review:

1. Use – The proposed use is a bank with drive-up, greater than 2,000 s.f. which is listed in the use regulations section 5.5.3 as an allowed special permit use under zoning district B4 Vehicular Oriented Business District. The property received a special permit in 1997 to allow for a bank with drive-up and has operated as bank since.

2. Desirable and Public Convenience – The existing and proposed bank use is an essential and desirable public convenience to the Arlington Heights neighborhood and has been serving the community as a bank since the 1970s.

3. Traffic Pedestrian Safety – The existing traffic patterns and parking will remain the same. Pedestrian safety will be enhanced by providing an ADA compliant access way from the sidewalk on Mass Ave to the building. A pocket park with bike rack and seating will be created between the building and Mass Ave.

4. Utilities – Existing utilities will be upgraded if necessary and reused. A landscaped depression will be constructed to accept the stormwater generated by the roof of the building to allow for infiltration and detention to reduce stormwater runoff. In addition, the amount of open space onsite will be increased.

5. Special Regulations - There are no known special regulations applicable to the proposed use.

6. Character Neighborhood – The use is proposed to be a continuation of the same use that has operated on the property since the 1970s. The architectural intent and materials have been designed to complement the existing buildings and character of the neighborhood.

7. The proposed use will not be in excess or detriment to the character of the neighborhood and will be a continuation of a convenience use for the benefit of the neighborhood.


Drive-up Teller
Clearance 9'0"
Drive-up Teller


Citizens Bank




1420

PROPOSED SITE PLAN DOCUMENTS

FOR

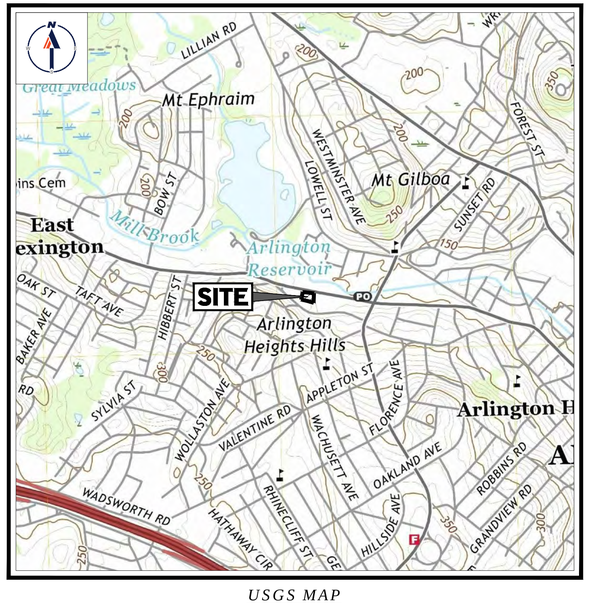
1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED

CITIZENS BANK REDEVELOPMENT

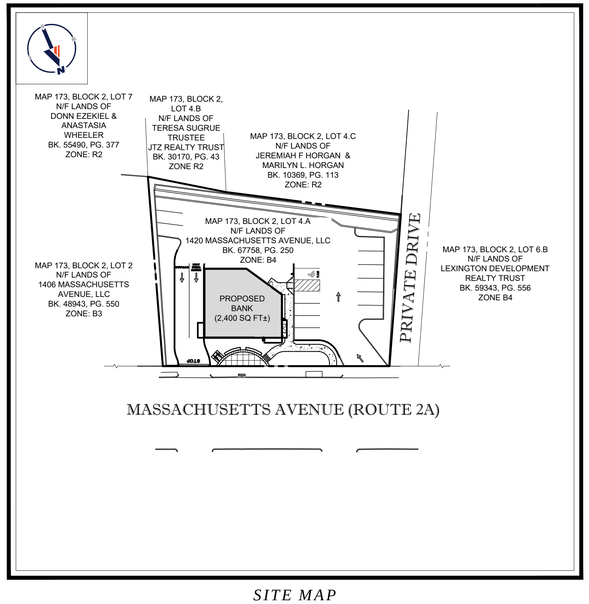
LOCATION OF SITE:

1420 MASSACHUSETTS AVENUE, TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS
MAP #173, BLOCK #2, LOT #4.A



USGS MAP

SCALE: 1" = 1,000'
SOURCE: LEXINGTON MASSACHUSETTS USGS QUADRANGLE



SITE MAP

SCALE: 1" = 50'

DRAWING SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-101
GENERAL NOTES SHEET	C-102
DEMOLITION PLAN	C-201
SITE LAYOUT PLAN	C-301
GRADING AND DRAINAGE PLAN	C-401
UTILITY PLAN	C-501
EROSION AND SEDIMENT CONTROL PLAN	C-601
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	C-602
LANDSCAPE PLAN	C-701
LANDSCAPE NOTES AND DETAILS	C-702
DETAIL SHEET	C-901
BOUNDARY & TOPOGRAPHIC SURVEY (BY OTHERS)	1 SHEET

PREPARED BY

BOHLER

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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PERMIT SET

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A 1420 MASSACHUSETTS AVENUE TOWN OF ARLINGTON MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
JOSEPH M. SWELINO
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

COVER SHEET

SHEET NUMBER:

C-101

ORG. DATE - ##########

I:\BOHLER\ENG NET\SHARE\SMA PROJECTS\W161132\DRAWINGS\PLAN SETS\REVIEW\161132-CVL-0_----3-LAYOUT- C-101-COVR

GENERAL NOTES

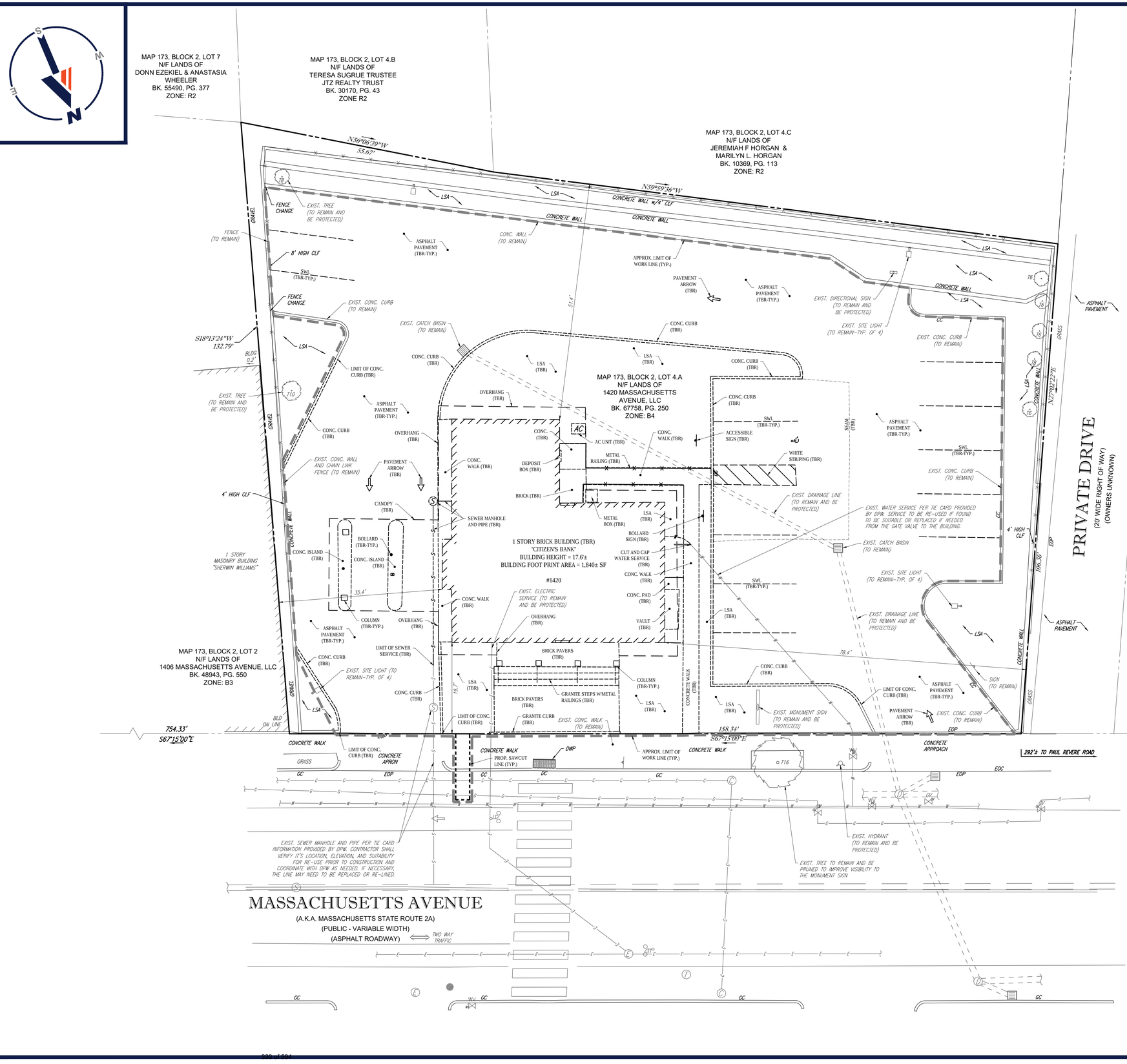
CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS.

1. THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:
   - "BOUNDARY & TOPOGRAPHIC SURVEY", PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED 07/15/16, REVISED THRU 08/28/20.
   - "REPORT OF GEOTECHNICAL INVESTIGATION", PREPARED BY WHITESTONE ASSOCIATES, INC., DATED 12/28/20.

   PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT HE/SHE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE. THIS IS CONTRACTOR'S RESPONSIBILITY.
2. ALL ACCESSIBLE (AA'A ADA) PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 et seq. AND 42 U.S.C. § 4151 et seq.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
4. THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
5. ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT.
6. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN THE PLANS AND THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORTS AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.
7. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
8. ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE REDONE OR REPAIRED DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER, THEREAFTER, PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
9. CONTRACTOR MUST REFER TO THE ARCHITECTURAL/BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.
10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE ENTIRE SITE PLAN AND THE LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLAN, WHERE APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SITE ENGINEER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST.
11. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR.
12. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH RELEVANT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES.
13. THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL INTEGRITY OF ALL EXISTING BUILDINGS AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.
14. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REPAIR OR REPLACEMENT, AS NECESSARY, OF ANY DAMAGED ITEMS. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
15. ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.
16. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
17. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER'S SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD IS NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES, AT ANY TIME.
18. ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING, AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS, ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
19. BOHLER ENGINEERING WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME HEREUNDER. BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION, IN WRITING, BY THE CONTRACTOR. BOHLER ENGINEERING WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
20. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE NAMED AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE IN NOTE 19 FOR JOB SITE SAFETY.
21. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH PARAGRAPH 19 HEREIN, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SAME.
22. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE.
23. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.
24. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS.
25. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN AND, FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
26. ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, UNLESS NOTED OTHERWISE.
27. ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES, AND ALL APPLICABLE OSHA REQUIREMENTS.
28. CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
29. CONTRACTOR IS RESPONSIBLE TO MAINTAIN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH EPA REQUIREMENTS FOR SITES WHERE ONE (1) ACRE OR MORE (UNLESS THE LOCAL JURISDICTION REQUIRES FEWER) IS DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE.
30. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER, THE USE OF THE WORDS CERTIFY OR CERTIFICATION CONSTITUTES AN EXPRESSION OF "PROFESSIONAL OPINION" REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERSIGNED PROFESSIONAL'S KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

GENERAL GRADING & UTILITY PLAN NOTES

1. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE INDEPENDENTLY CONFIRMED WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED, IN WRITING, TO THE ENGINEER. CONSTRUCTION MUST COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY BETWEEN THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE OR APPLICABLE CODES, REGULATIONS, LAWS, RULES, STATUTES AND/OR ORDINANCES, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, OF SAID CONFLICT AND/OR DISCREPANCY PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR'S FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTOR'S FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITY TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, STATUTES, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SAME.
4. THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.
5. THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
6. THE CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES.
7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS WITH JURISDICTION AND/OR CONTROL OF THE SITE, AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-IN/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE SITE PLANS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.
8. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE FULL AND COMPLETE WORKING SERVICE. CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.
9. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.
10. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT AND AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROPRIATE MATERIAL AS SPECIFIED IN THE GEOTECHNICAL REPORT. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.
11. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND MUST BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST, AT A MINIMUM, COMPLY WITH THE STATE DOT REQUIREMENTS AND SPECIFICATIONS AND CONSULTANT SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTION AND BACKFILL. FURTHER, CONTRACTOR IS FULLY RESPONSIBLE FOR EARTHWORK BALANCE.
12. THE CONTRACTOR MUST COMPLY, TO THE FULLEST EXTENT, WITH THE LATEST OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION. OSHA AND/OR TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.
13. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUTT JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.
14. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
15. DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENT



REFER TO GENERAL NOTES SHEET FOR DEMOLITION NOTES

THIS PLAN TO BE UTILIZED FOR DEMOLITION/ REMOVAL PURPOSES ONLY

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1"= 10'

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220 of 504

BOHLER

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
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PROJECT No.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER

352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900

www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
JOSHUA M. SWERLING
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

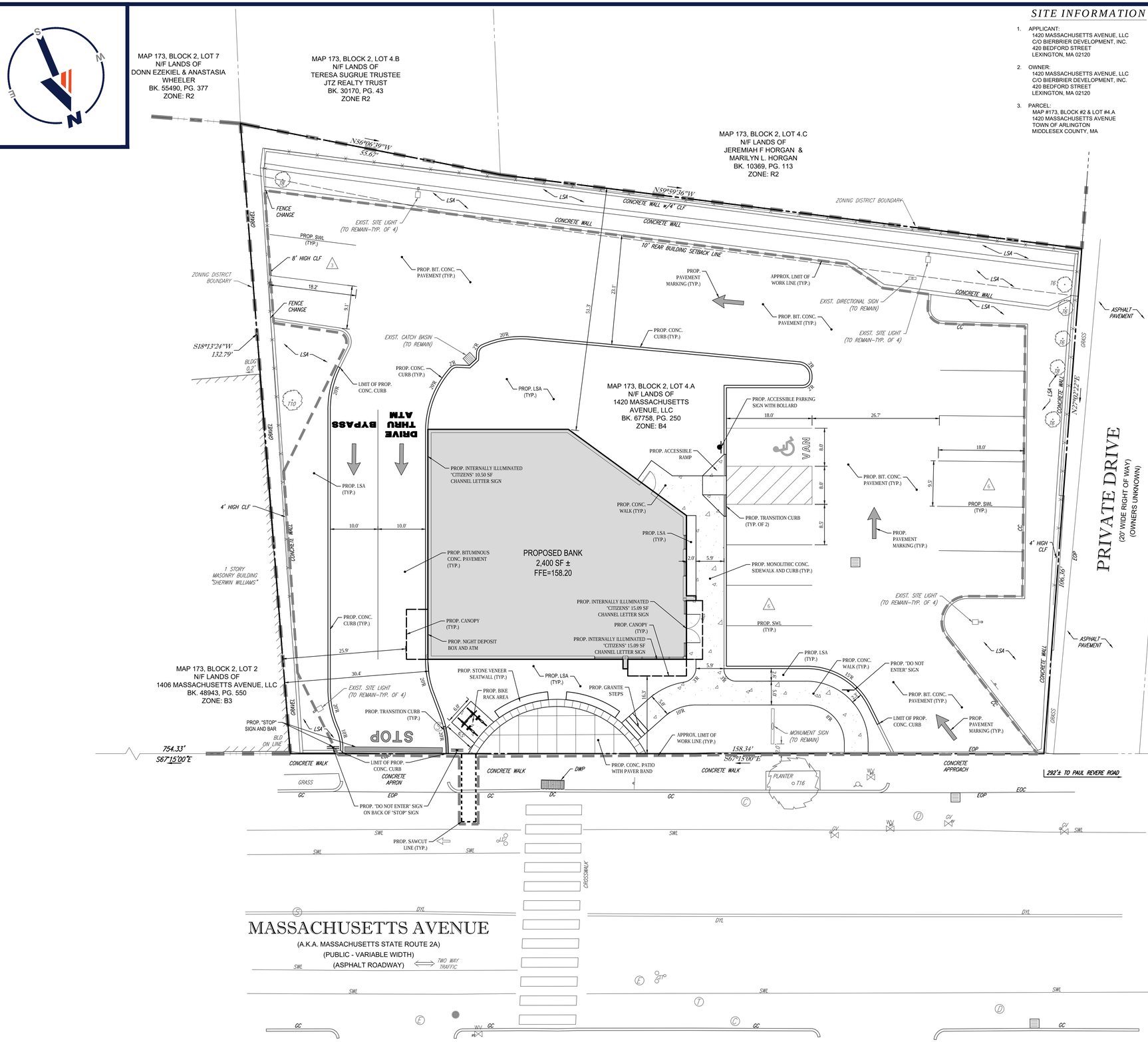
SHEET TITLE:

DEMOLITION PLAN

SHEET NUMBER:

C-201

ORG. DATE - ##########



SITE INFORMATION

1. APPLICANT:
   1420 MASSACHUSETTS AVENUE, LLC
   C/O BIERBRIER DEVELOPMENT, INC.
   420 BEDFORD STREET
   LEXINGTON, MA 02120
2. OWNER:
   1420 MASSACHUSETTS AVENUE, LLC
   C/O BIERBRIER DEVELOPMENT, INC.
   420 BEDFORD STREET
   LEXINGTON, MA 02120
3. PARCEL:
   MAP #173, BLOCK #2 & LOT #4.A
   1420 MASSACHUSETTS AVENUE
   TOWN OF ARLINGTON
   MIDDLESEX COUNTY, MA

ZONING ANALYSIS TABLE

N/A - NOT APPLICABLE
N/S - NOT SPECIFIED
(V) - VARIANCE REQUESTED
(W) - WAIVER REQUESTED
(E) - EXIST. NON-CONFORMANCE

ZONING DISTRICT	VEHICULAR ORIENTED BUSINESS (B4)		
OVERLAY DISTRICT	NONE		
REQUIRED PERMIT	BANK OVER 2,000 SF WITH DRIVE-UP ATM PERMITTED BY SPECIAL PERMIT		
ZONE CRITERIA	**REQUIRED**	**EXISTING**	**PROPOSED**
MIN. LOT AREA	NONE	19,727 SF	NO CHANGE
MIN. LOT FRONTAGE	50 FT	158.3 FT	NO CHANGE
MAX. BLDG F.A.R.	1.0	0.18	0.12
MIN. FRONT SETBACK	0 FT	19.7 FT	16.3 FT
MIN. SIDE SETBACK	0 FT	10.6 FT	25.9 FT
MIN. REAR SETBACK	10 FT	51.4 FT	51.3 FT
MAX. BUILDING HEIGHT	35 FT / 3 STORIES	17.6 FT	20.0 FT
MIN. OPEN SPACE	10%	23.1%	28.0%
PARKING SPACES	8	15	NO CHANGE
ACCESS. PARKING SPACES	1	1	1
PARKING STALL CRITERIA STANDARD: 9 FT x 18 FT COMPACT: 8 FT x 16 FT	USE/CATEGORY: RETAIL OR OTHER SERVICE USE REQUIRED PARKING: 1 SPACE PER 300 SF SF CALCULATION: 2,400 / 300 = 8 SPACES REQUIRED		

BICYCLE PARKING REQUIREMENTS

RETAIL AND SERVICE USE REQUIRES 0.60 SPACES PER 1,000 SF OF GROSS FLOOR AREA.
- 2,400 SF x 0.6 / 1,000 = 1.4 SPACES REQUIRED
- 2 SPACES PROVIDED

THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL SERVICES
PERMITTING SERVICES
TRANSPORTATION SERVICES

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PROJECT:

PROPOSED SITE PLAN DOCUMENTS

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH M. SWELLING
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

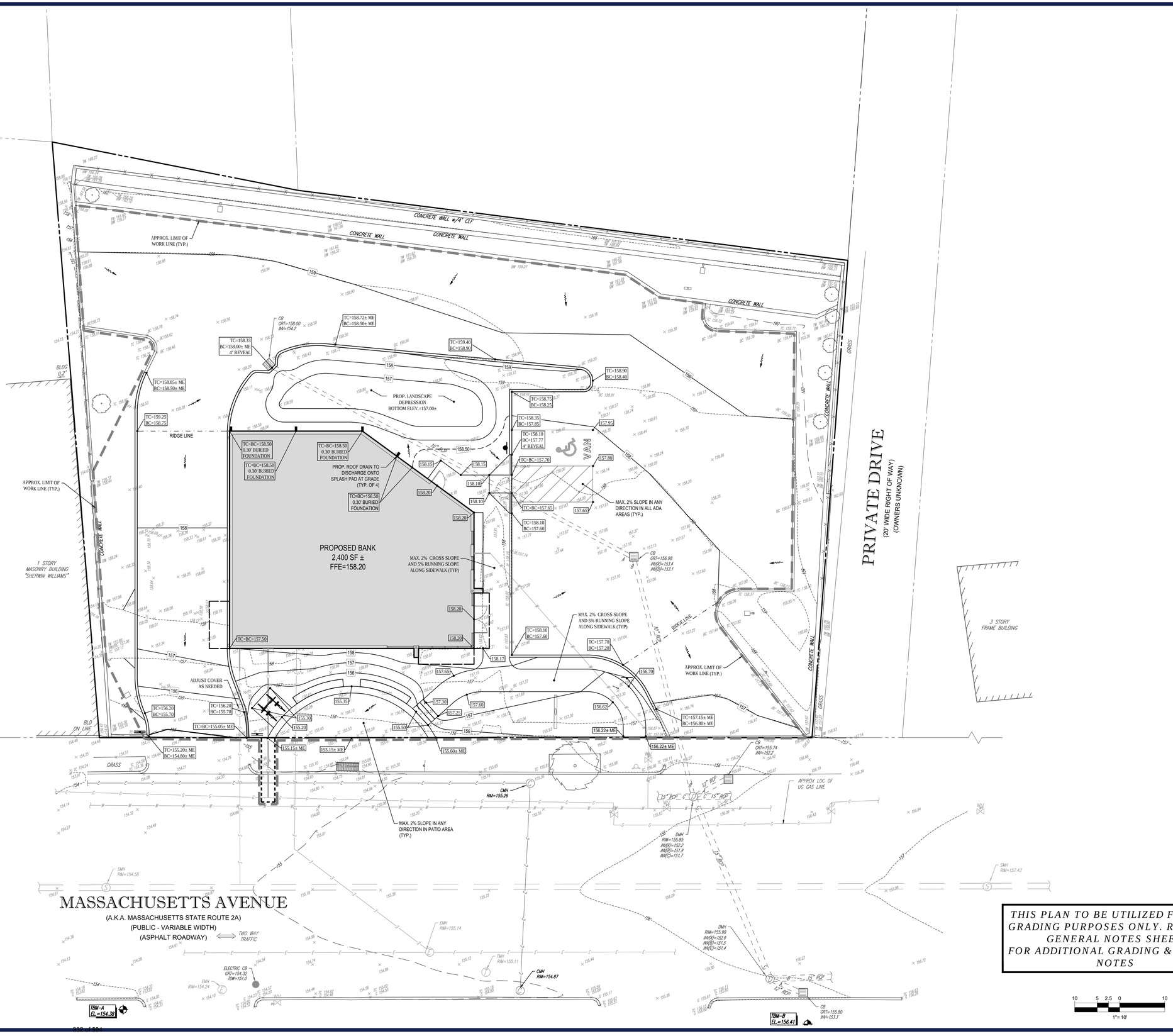
SITE LAYOUT PLAN

SHEET NUMBER:

C-301

ORG. DATE - ##########

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THIS PLAN TO BE UTILIZED FOR SITE GRADING PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL GRADING & UTILITY NOTES

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1"= 10'

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
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PROJECT No.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
JOSEPH C. SWIERINGA
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

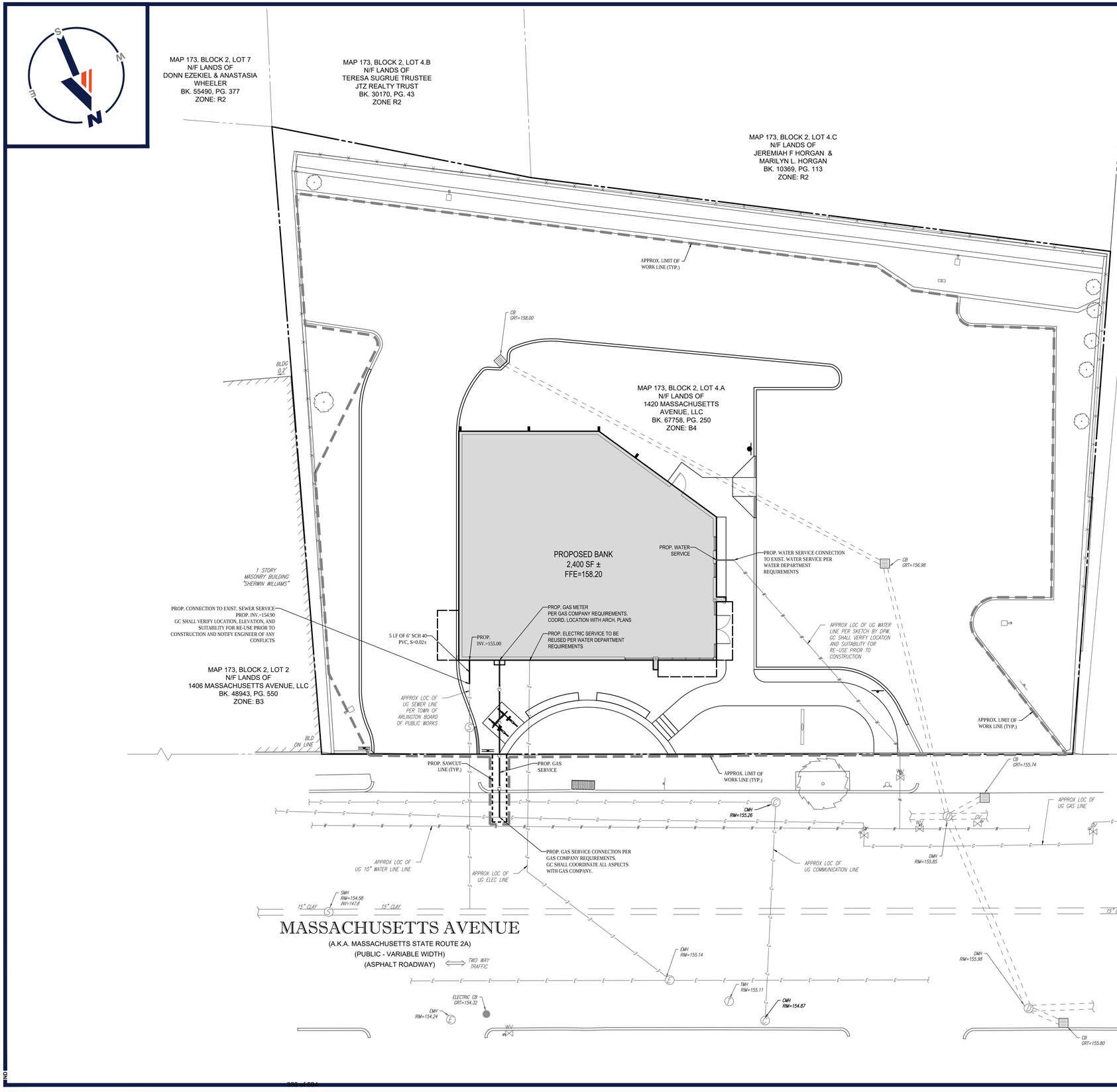
GRADING AND DRAINAGE PLAN

SHEET NUMBER:

C-401

ORG. DATE - ##########

I:\BOHLER\ENG\TIT\SHARED\MA-PROJECTS\W161132\DRAWINGS\PLAN SETS\REVIEW\161132-CIVIL-B——LAYOUT C-401.DWG



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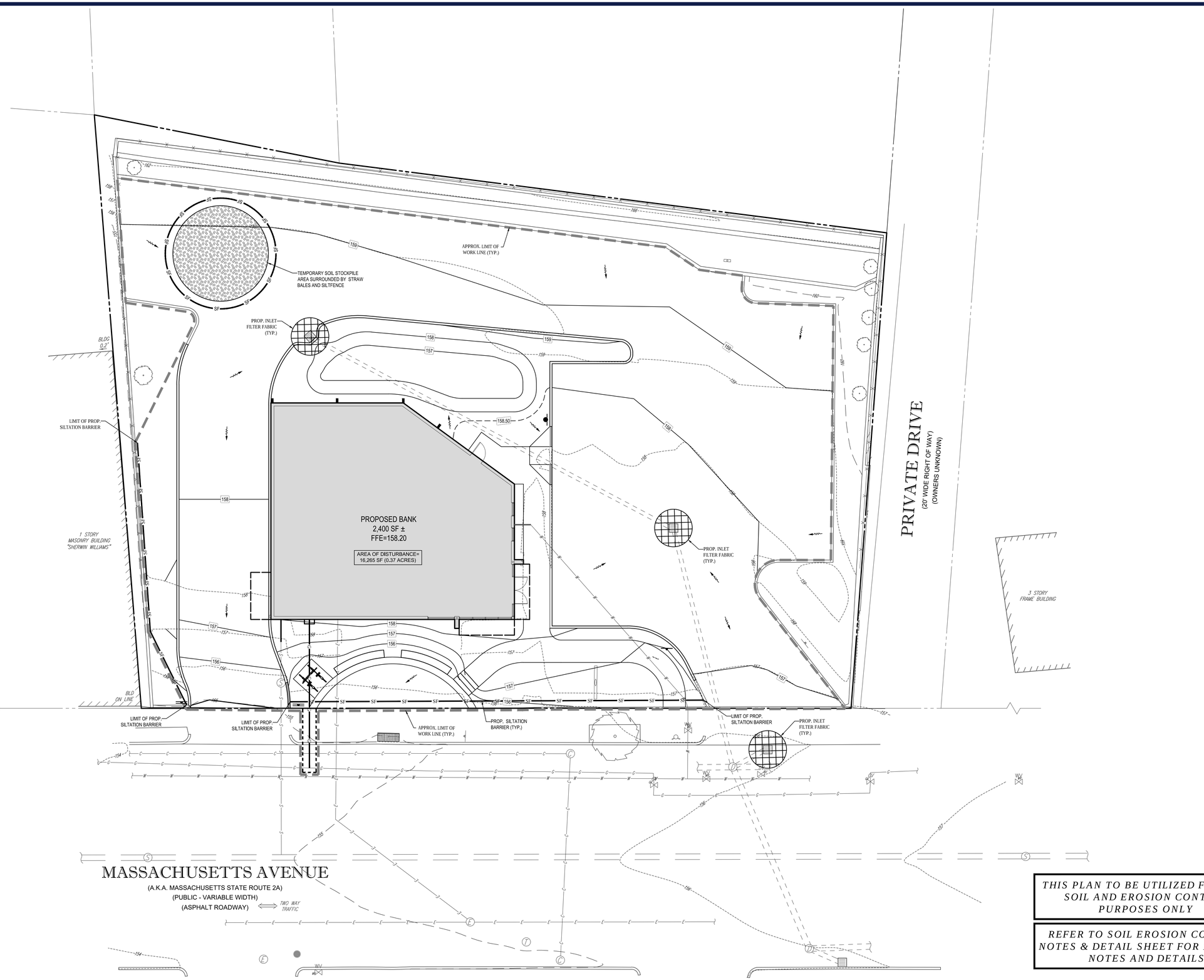
UTILITY PLAN

SHEET NUMBER:

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REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS

10 5 2.5 0 10
1"= 10'

1" = 10'

\\BOHLERENG.NET\SHARES\MA-PROJECTS\W161132\DRAWINGS\PLAN SETS\REVIS\W161132-CIVIL-0----LAYOUT- C-601-EROS

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JOSHUA M. SWERLING
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SHEET TITLE:

SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:

C-601

ORG. DATE - ##########

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.
2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).
3. SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
4. INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILTATION BARRIER DETAILS FOR PROPER INSTALLATION. SILTATION BARRIER WILL REMAIN IN PLACE PER NOTE #5.
5. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF.
6. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1).
7. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
8. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
9. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS.
10. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:

10.1. SIX INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.

10.2. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 LB PER ACRE OR 18.4 LB PER 1,000 SF USING 10-20-20 OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER1,000 SF).

10.3. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUE-GRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS: SEEDING RATE IS 1.03 LBS PER 1,000 SF LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED.

10.4. STRAW MULCH AT THE RATE OF 70-90 LBS PER 1,000 SF. A HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON STRAW MULCH FOR WIND CONTROL.

11. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
12. WETLANDS WILL BE PROTECTED W/ STRAW, COMPOST, AND/OR SILT FENCE BARRIERS INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
13. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL HAVE AN EXPOSURE WINDOW OF NOT MORE THAN 7 DAYS.
14. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED,

MULCH

LOCATION	MULCH	RATE (1000 SF)
PROTECT AREA	STRAW	100 POUNDS
WINDY AREA	SHREDDED OR CHOPPED CORNSTALKS	185-275 POUNDS
	STRAW (ANCHORED)*	100 POUNDS
MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES GREATER THAN 3:1	JUTE MESH OR EXCELSIOR MAT	AS REQUIRED
GREATER THAN 3:1	(REFER TO GEOTECHNICAL REPORT FOR FINAL DESIGN REQUIREMENT)	

* A HYDRO-APPLICATION OF WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON STRAW MULCH FOR WIND CONTROL.

MULCH ANCHORING
ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD/BLOCK); MULCH NETTING (AS PER MANUFACTURER); WOOD CELLULOSE FIBER (750 LBS/ACRE); CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS); USE OF A SERRATED STRAIGHT DISK. WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

EROSION CONTROL NOTES DURING WINTER CONSTRUCTION

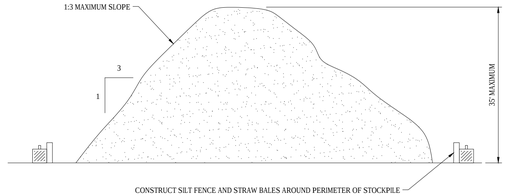
1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
4. CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 200 - 300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF STRAW OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
7. MULCHING REQUIREMENTS:

7.1. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.

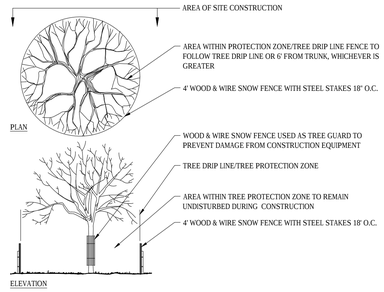
7.2. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.

7.3. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.

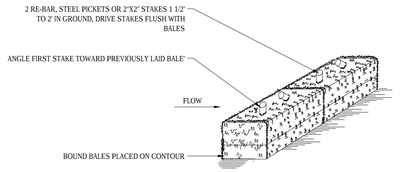
8. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY DORMANT SEEDING OR MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
9. DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
10. STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT MAY OCCUR WITH ADJACENT PROPERTIES AND TO PROVIDE MAXIMUM PROTECTION AGAINST EROSION RUNOFF.
11. EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.



TEMPORARY STOCKPILE DETAIL — N.T.S.



TREE PROTECTION DURING CONSTRUCTION — N.T.S.

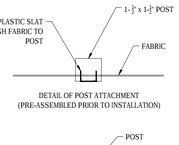


DRAINAGE AREA NO MORE THAN 1/4 AC. PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%

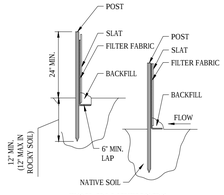
NOTES:
1. BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DETAIL — N.T.S.

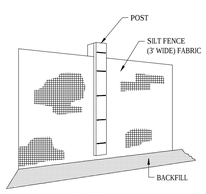
INSTALLATION:
1. EXCAVATE A 6"x 6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
2. UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMP- ING FILL AT THE BASE.



DETAIL OF POST ATTACHMENT
(PRE-ASSEMBLED PRIOR TO INSTALLATION)

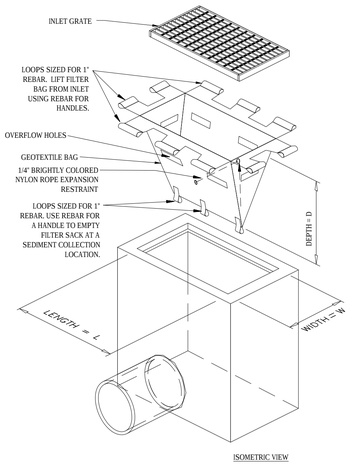


TOE-IN METHODS

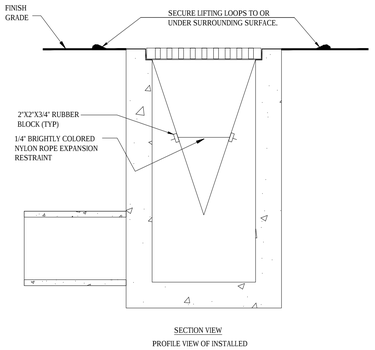


PERSPECTIVE OF FENCE

TYP. SILTATION FENCE DETAIL — N.T.S.



ISOMETRIC VIEW



SECTION VIEW
PROFILE VIEW OF INSTALLED FILTER SACK

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, 'W', OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, 'D', OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES
7. THE LENGTH, 'L', OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

TO BE USED IN EXISTING RIGHT OF WAY

FILTER SACKS (GRATED INLETS) — N.T.S.

N.T.S.

THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:

-INSTALLATION OF EROSION CONTROL BARRIER (STRAW BALES AND SILT FENCE) (AS SHOWN)

-INSTALLATION OF INLET PROTECTION IN STREET (AS SHOWN)

-DEMOLITION OF EXISTING SITE STRUCTURES (SEE DEMOLITION PLAN)

-DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE DEMOLITION PLAN)

-CLEARING AND GRUBBING

-EARTHWORK AND EXCAVATION/FILLING AS NECESSARY

-CONSTRUCTION OF UTILITIES

-STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING

-INSTALLATION OF INLET PROTECTION OF ON-SITE UTILITIES (AS SHOWN)

-CONSTRUCTION OF BUILDING

-CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS

-SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH

-FINAL GRADING OF ALL SLOPED AREAS

-PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED AS REQUIRED.

-PAVE PARKING LOT

-LANDSCAPING PER LANDSCAPING PLAN

-REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER.

CONSTRUCTION SEQUENCE — N.T.S.

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PROJECT No.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-FTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED
CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
ROSS D. NEWHALL
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No. 41697
REGISTERED PROFESSIONAL ENGINEER

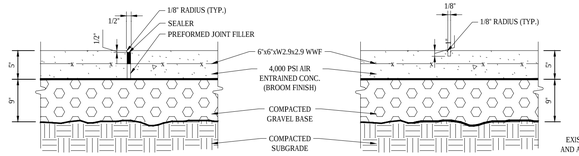
SHEET TITLE:
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

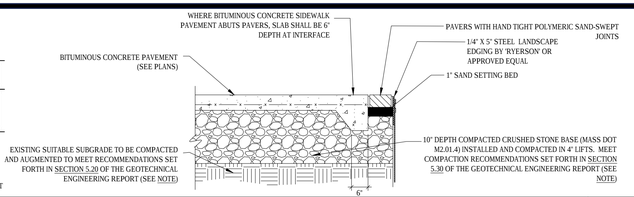
SHEET NUMBER:
C-602

ORG. DATE - ##########

\\BOHLERENG.NET\SHARES\MA-PROJECTS\W161132\DRAWINGS\PLAN SETS\REVIZ\W161132-CVL-0----LAYOUT: C-602-ENOTE

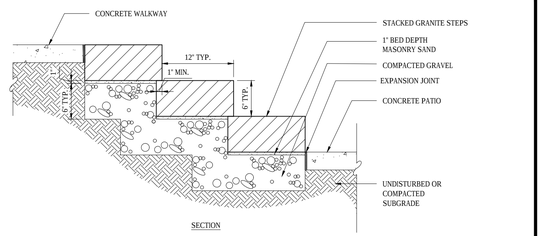






CONCRETE PATIO WITH PAVER SOLDIER COURSE

N.T.S.



SECTION

GRANITE STEPS

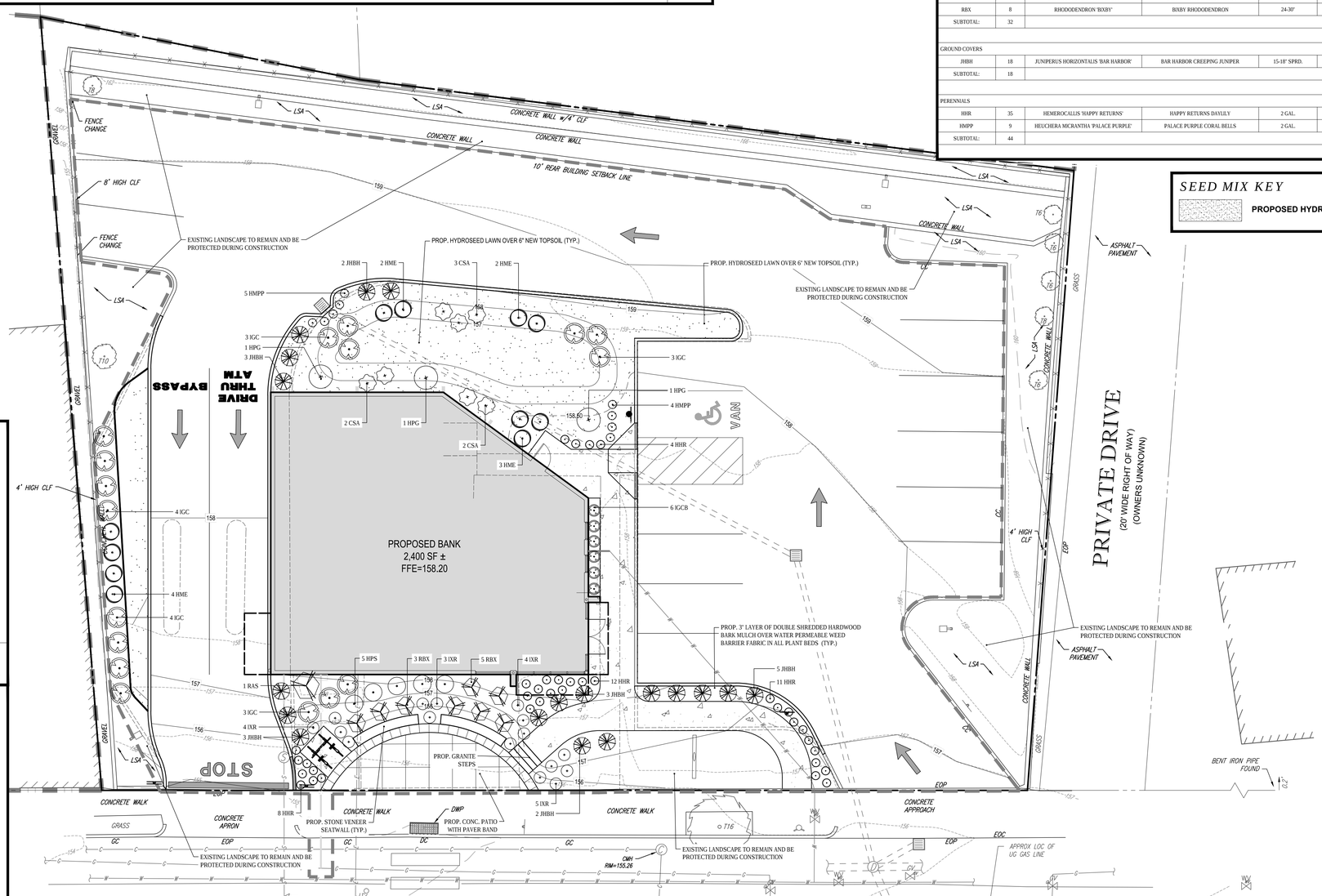
N.T.S.

LANDSCAPE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONT.
DECIDUOUS SHRUBS					
CSA	7	CORNUS STOLONIFERA 'ARCTIC FIRE'	COMPACT RED TWIG DOGWOOD	18-24"	B+B
HME	11	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER'	ENDLESS SUMMER HYDRANGEA	18-24"	CONTAINER
HPG	3	HYDRANGEA PANICULATA 'GRANDIFLORA'	PEE GEE HYDRANGEA	24-30"	CONTAINER
HPS	5	HYPERICUM PATULUM 'SUNBURST'	SUNBURST ST. JOHNSWORT	18-24"	CONTAINER
IXR	16	ILEX X VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	18-24"	CONTAINER
SUBTOTAL:	42				
EVERGREEN SHRUBS					
IGC	17	ILEX GLABRA 'COMPACTA'	DWARF INKBERRY HOLLY	24-30"	B+B
IGCB	6	ILEX GLABRA 'GEM BOX'	DWARF INKBERRY HOLLY	18-24"	CONTAINER
RAS	1	RHODODENDRON 'APRIL SNOW'	APRIL SNOW RHODODENDRON	24-30"	CONTAINER
RBX	8	RHODODENDRON 'BIXBY'	BIXBY RHODODENDRON	24-30"	CONTAINER
SUBTOTAL:	32				
GROUND COVERS					
JHBH	18	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	15-18" SPRD.	CONTAINER
SUBTOTAL:	18				
PERENNIALS					
HHR	35	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	2 GAL.	CONTAINER
HMPP	9	HEUCHERA MICRANTHA 'PALACE PURPLE'	PALACE PURPLE CORAL BELLS	2 GAL.	CONTAINER
SUBTOTAL:	44				

SEED MIX KEY

PROPOSED HYDROSEED



MASSACHUSETTS AVENUE

(A.K.A. MASSACHUSETTS STATE ROUTE 2A)
(PUBLIC - VARIABLE WIDTH)
(ASPHALT ROADWAY)
TWO WAY TRAFFIC

OWNER MAINTENANCE RESPONSIBILITIES

UPON OWNER'S (OR OWNER CONTRACTOR'S) COMPLETION OF LANDSCAPING WORK, THE OWNER IS FULLY RESPONSIBLE FOR ALL FUTURE MAINTENANCE, CARE, UPKEEP, WATERING, AND TRIMMING OF ALL INSTALLED VEGETATION, PLANTS, TREE, BUSHES, SHRUBS, GRASSES, GRASS, ORNAMENTAL PLANTS AND FLOWERS, FLOWERS, GROUND COVER, AND LANDSCAPING, INCLUDING ALL LANDSCAPE ISLANDS AND AREAS ADJACENT OR PART OF THE LANDSCAPED AREAS. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- TREES ADJACENT TO WALKWAYS AND AREAS OF PEDESTRIAN TRAFFIC MUST BE MAINTAINED TO ASSURE THAT ANY BRANCHES MUST BE LIMBED UP TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PEDESTRIAN SURFACES) OR PRUNED BACK TO AVOID ANY INTERFERENCE WITH THE TYPICAL PATH OF TRAVEL.
- TREES WITHIN VEHICULAR SIGHT LINES, AS ILLUSTRATED ON THE LANDSCAPE PLAN, ARE TO BE TRIMMED TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PAVED, TRAVELED SURFACES), OR AS OTHERWISE INDICATED ON THE PLANS.
- VEGETATIVE GROUND COVER, SHRUBS AND ORNAMENTAL PLANTS AND GRASSES MUST BE TRIMMED SO THAT NO PORTION OF THE PLANT EXCEEDS 30 INCHES ABOVE GRADE (OF ALL PAVED, TRAVEL SURFACES) ALONG AND WITHIN THE SIGHT LINES OF PARKING LOTS AND INGRESS-EGRESS WAYS.
- FALLEN PLANT FLOWERS, FRUIT, SEEDS AND DEBRIS DROPPINGS ARE TO BE REMOVED IMMEDIATELY FROM VEHICULAR AND PEDESTRIAN TRAFFIC AREAS TO PREVENT TRIPPING, SLIPPING OR ANY OTHER HAZARDS.

THESE REQUIREMENTS DO NOT AFFECT THE PLANT LIFE GUARANTEES THE LANDSCAPE CONTRACTOR IS REQUIRED TO PROVIDE.

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

REFER LANDSCAPE NOTES & DETAILS SHEET FOR LANDSCAPE NOTES AND DETAILS

20 10 5 0 20
1"= 20'

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
LEED AND SUSTAINABILITY
PERMITTING SERVICES
TRANSPORTATION SERVICES
THE BOHLER LOGO, SCALLOP AND CONCEPT OF THEM ARE PROPRIETARY AND SHALL NOT BE EXPOSED, USED TO DISPLAY, REPRODUCED OR DISCLOSED TO ANY OTHER PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESS WRITTEN AUTHORIZATION FROM BOHLER. ONLY APPROVED PLANS SHALL BE UTILIZED FOR CONSTRUCTION PURPOSES.
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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

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COMMONWEALTH OF MASSACHUSETTS
MATTHEW Q. MUSE
No. 52,161
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

C-701

ORG. DATE - ##########

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LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK:

1.1. THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS

2.1. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.

2.2. TOPSOIL - NATURAL, FRIABLE, LOAMY SUIT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.

2.3. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM 6" THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED ON THE LANDSCAPE PLAN

2.3.1. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.

2.3.2. SOD SHALL BE STRONGLY ROOTTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.

2.4. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN AND/OR LANDSCAPE PLAN NOTES /DETAILS.

2.5. FERTILIZER

2.5.1. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.

2.5.2. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.

2.6. PLANT MATERIAL

2.6.1. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE 'AMERICAN STANDARD FOR NURSERY STOCK' (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN).

2.6.2. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.

2.6.3. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.

2.6.4. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1¼", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.

2.6.5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH: WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.

2.6.6. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.

2.6.7. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.

2.6.8. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES

3.1. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.

3.2. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS

4.1. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.

4.2. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.

4.3. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION

5.1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.

5.2. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY 'VISI-FENCE', OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.

5.3. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

5.4. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS

6.1. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.

6.2. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.

6.3. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.

6.3.1. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.

6.3.2. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.

6.3.3. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING

7.1. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.

7.2. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±).

7.3. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.

7.4. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING

8.1. CONTRACTOR SHALL PROVIDE A 6" THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.

8.2. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.

8.3. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.

8.4. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BID PURPOSES ONLY [SEE SPECIFICATION 6.A.]):

8.4.1. 20 POUNDS 'GRO-POWER' OR APPROVED SOIL CONDITIONER/FERTILIZER

8.4.2. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER

8.5. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING

9.1. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.

9.2. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

9.3. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.

9.4. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.

9.5. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.

9.6. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:

9.6.1. PLANTS: MARCH 15 TO DECEMBER 15

9.6.2. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1

9.6.3. PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.

9.7. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM	PLATANUS X ACERIFOLIA
BETULA VARIETIES	POPULUS VARIETIES
CARPINUS VARIETIES	PRUNUS VARIETIES
CRATAEGUS VARIETIES	PYRUS VARIETIES
KOELREUTERIA	QUERCUS VARIETIES
LIQUIDAMBAR STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES

9.8. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:

9.8.1. 1 PART PEAT MOSS

9.8.2. 1 PART COMPOSTED COW MANURE BY VOLUME

9.8.3. 3 PARTS TOPSOIL BY VOLUME

9.8.4. 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:

9.8.4.1. 2 TABLETS PER 1 GALLON PLANT

9.8.4.2. 3 TABLETS PER 5 GALLON PLANT

9.8.4.3. 4 TABLETS PER 15 GALLON PLANT

9.8.4.4. LARGER PLANTS: 2 TABLETS PER ½" CALIPER OF TRUNK

9.9. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.

9.10. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.

9.11. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.

9.12. GROUND COVER AREAS SHALL RECEIVE A ¼" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.

9.13. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.

9.14. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.

9.15. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)

10.1. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.

10.2. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.

10.3. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.

10.4. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.

10.5. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.

10.6. F TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

11. WATERING

11.1. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.

11.2. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.

11.3. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

12. GUARANTEE

12.1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF 1 YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

12.2. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.

12.3. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.

12.4. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

13. CLEANUP

13.1. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.

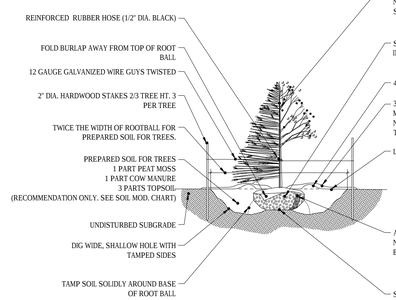
13.2. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

14. MAINTENANCE (ALTERNATIVE BID):

14.1. A 90 DAY MAINTENANCE PERIOD SHALL COMMENCE AT THE END OF ALL LANDSCAPE INSTALLATION OPERATIONS. THE 90 DAY MAINTENANCE PERIOD ENSURES TO THE OWNER/OPERATOR THAT THE NEWLY INSTALLED LANDSCAPING HAS BEEN MAINTAINED AS SPECIFIED ON THE APPROVED LANDSCAPE PLAN. ONCE THE INITIAL 90 DAY MAINTENANCE PERIOD HAS EXPIRED, THE OWNER/OPERATOR MAY REQUEST THAT BIDDERS SUBMIT AN ALTERNATE MAINTENANCE BID FOR A MONTHLY MAINTENANCE CONTRACT. THE ALTERNATE MAINTENANCE CONTRACT WILL ENCOMPASS ANY WORK THAT IS CONSIDERED APPROPRIATE TO ENSURE THAT PLANT AND LAWN AREAS ARE HEALTHY AND MANICURED TO THE APPROVAL OF THE OWNER/OPERATOR.

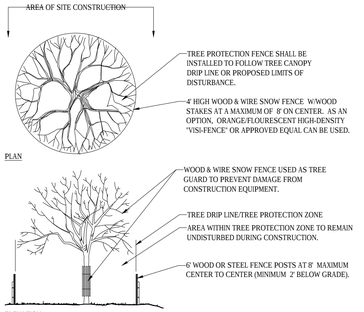
I:\BOHLER\NJ\BHARE\MA-PROJECTS\161132\DRAWINGS\PLAN SETS\REVW\161132-LND-S-----LAYOUT C-702-LNOTE

NOTES:
1.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2.) REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP BACK 1/3 FROM ROOT BALL.
3.) PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4.) THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH
AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5.) THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS
NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING SOIL INTO THE SUBSOIL.
6.) REFER TO THE CHART 'GENERAL RANGE OF SOIL MODIFICATIONS & VOLUMES FOR VARIOUS SOIL CONDITIONS' TO DETERMINE MINIMUM WIDTH OF PREPARED SOIL.
7.) SUBSTITUTE ARBORVITAE STAKING SYSTEM WHEN SPECIFIED.



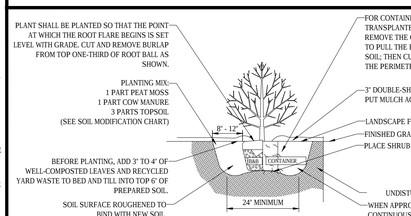
TREE PLANTING DETAIL

N.T.S.



TREE PROTECTION DURING SITE CONSTRUCTION

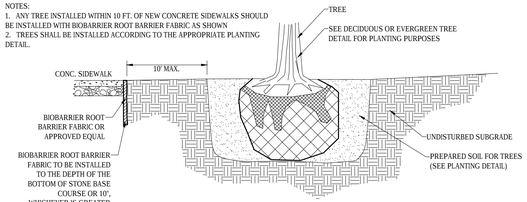
N.T.S.



SHRUB PLANTING DETAIL

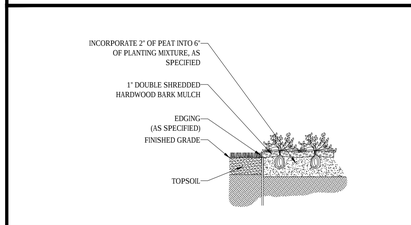
N.T.S.

NOTES:
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.



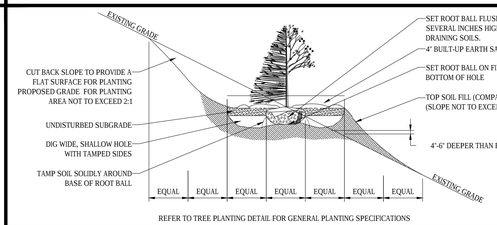
BIOBARRIER ROOT BARRIER DETAIL

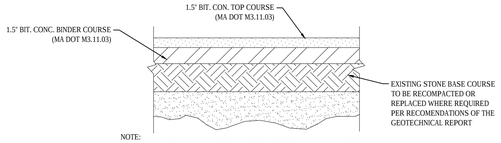
N.T.S.



GROUNDCOVER PLANTING

N.T.S.


EXISTING GRADE
CUT BACK SLOPE TO PROVIDE A FLAT SURFACE FOR PLANTING PROPOSED GRADE FOR PLANTING AREA NOT TO EXCEED 2:1
UNDISTURBED SUBGRADE
DIG WIDE, SHALLOW HOLE WITH TAMPED SIDES
TAMP SOIL SOLIDLY AROUND BASE OF ROOT BALL
SET ROOT BALL FLUSH TO GRADE OR SEVERAL INCHES HIGHER IN POORLY DRAINING SOILS.
4" BUILT-UP EARTH SAUCER
SET ROOT B

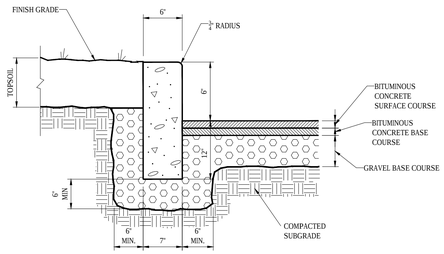


NOTE:
PAVEMENT BASE AND SUBBASE COURSES TO CONFORM TO ALL MASSDOT HIGHWAY DIVISION SPECIFICATIONS. GC TO REFER TO GEOTECHNICAL REPORT PREPARED BY WHITESTONE ASSOCIATES, INC., DATED 12/28/20 FOR PAVEMENT SPECIFICATIONS.

TYPICAL PAVEMENT SECTION

N.T.S.

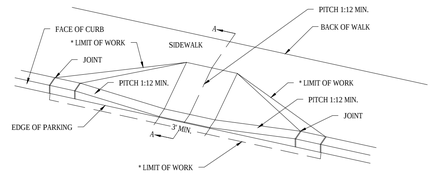
N.T.S.



NOTE:
1. CURB SHALL CONSIST OF 4,000 PSI AIR ENTRAINED CONCRETE, EXPOSED EDGES TO HAVE RUBBED FINISH AND SURFACE SHALL BE TREATED WITH A CONCRETE PENETRANT/SEALER.
2. THE ENDS OF CURB SECTIONS SHALL BE CHAMFERED 1/4 INCH.
3. THE CORNERS OF CURB SECTIONS SHALL MATCH THE ADJACENT CURB IN SIZE, COLOR AND FINISH.
4. CURBS, CURB CORNERS OR EDGING SHALL BE FITTED TOGETHER AS CLOSELY AS POSSIBLE.
5. EXPANSION JOINTS SHALL BE INSTALLED AT A MAXIMUM OF TWENTY FEET (20') ON CENTER USING PREFORMED EXPANSION JOINT FILLER HAVING A THICKNESS OF 1/2 INCH.

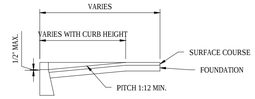
PRECAST CONCRETE CURB

N.T.S.



* REMOVE AND SAWCUT EXISTING PAVEMENT ALONG LINE INDICATED AS LIMIT OF WORK. CUT LINE TO INTERSECT CURB AT JOINT.

* LIMIT OF DISTURBANCE TO EXISTING ASPHALT ROADWAY- MAX. 6' STRIP ALONG EDGE OF ROADWAY

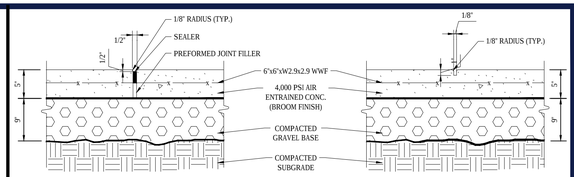


* ON WALKS UNDER 8' WIDE PITCH WILL VARY.

SECTION A-A

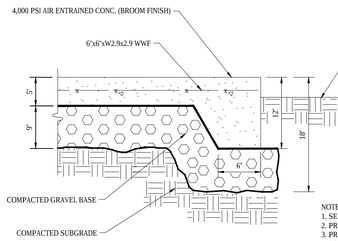
WHEELCHAIR RAMP

N.T.S.



EXPANSION JOINT

CONTROL JOINT

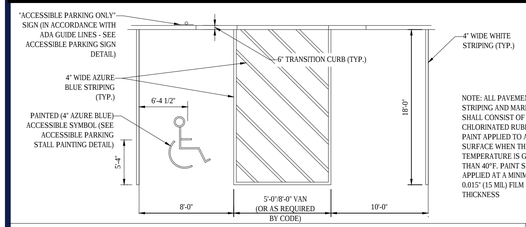


NOTES:
1. SEE SITE PLAN FOR WIDE AND GRADES
2. PROVIDE MINIMUM 1/8"/FT. CROSS-SLOPE
3. PROVIDE CONTROL JOINTS 5'-0" O.C. MIN.
4. PROVIDE EXPANSION JOINTS 20'- 0" O.C. MIN.

END SECTION
TO BE USED FOR BUILDING SURROUND AND OTHER CONCRETE WALKS. USE CHAIRS TO SUPPORT REINFORCING STEEL DURING POUR.

MONOLITHIC CONCRETE SIDEWALK AND CURB

N.T.S.



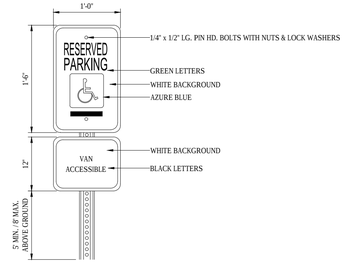
NOTE: ALL PAVEMENT STRIPING AND MARKINGS SHALL CONSIST OF CHLORINATED RUBBER PAINT APPLIED TO A DRY SURFACE WHEN THE TEMPERATURE IS GREATER THAN 40°F. PAINT SHALL BE APPLIED AT A MINIMUM OF 0.015" (15 MIL) FILM THICKNESS

ACCESSIBLE STALL MARKINGS & PARKING LOT STRIPING

N.T.S.

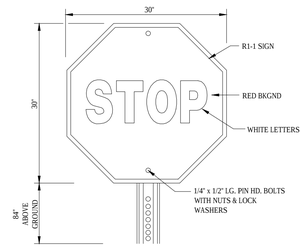
TRANSITION CURB

N.T.S.



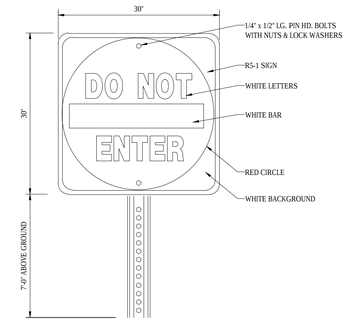
ACCESSIBLE PARKING SIGN

N.T.S.



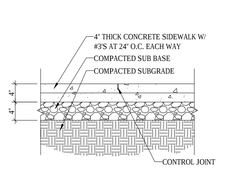
'STOP' SIGN

N.T.S.



"DO NOT ENTER" SIGN

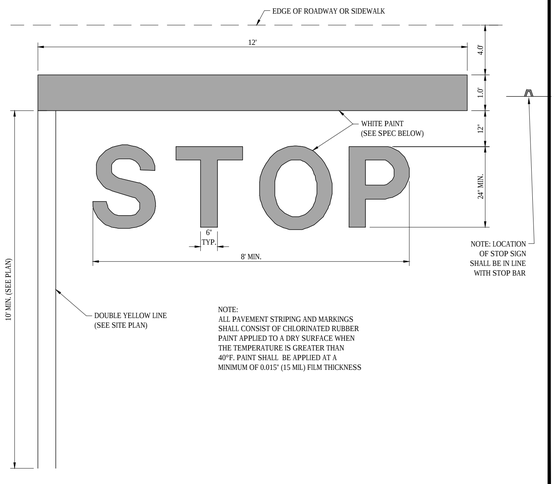
N.T.S.



NOTE: PROVIDE TOOLED CONTROL JOINTS AT 6' O.C. (25% SLAB THICKNESS) AND ISOLATION JOINTS AT 24' O.C., UNLESS OTHERWISE NOTED.

TYPICAL CONCRETE SIDEWALK SECTION

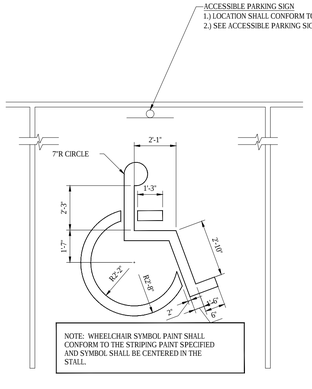
N.T.S.



NOTE:
ALL PAVEMENT STRIPING AND MARKINGS SHALL CONSIST OF CHLORINATED RUBBER PAINT APPLIED TO A DRY SURFACE WHEN THE TEMPERATURE IS GREATER THAN 40°F. PAINT SHALL BE APPLIED AT A MINIMUM OF 0.015" (15 MIL) FILM THICKNESS

'STOP' BAR

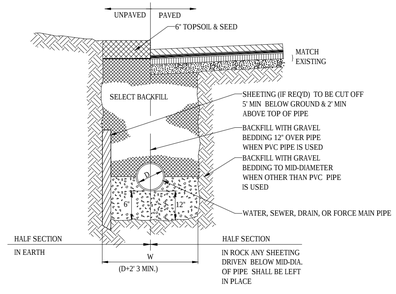
N.T.S.



NOTE: WHEELCHAIR SYMBOL PAINT SHALL CONFORM TO THE STRIPING PAINT SPECIFIED AND SYMBOL SHALL BE CENTERED IN THE STALL.

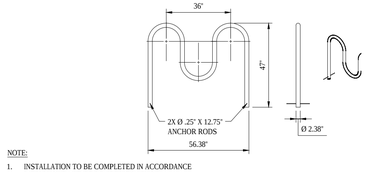
ACCESSIBLE PARKING STALL PAINTING

N.T.S.



TYPICAL UTILITY TRENCH

N.T.S.



NOTE:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. BIKE RACK TO BE SURFACE MOUNTED

BIKE RACK

N.T.S.

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL SERVICES
PERMITTING SERVICES
TRANSPORTATION SERVICES
THE BOHLER BOOK, WHICH CONSISTS OF THESE PLANS IN THEIR ENTIRETY AND THE DOCUMENTS REFERENCED THEREIN, IS INTENDED FOR USE IN ITS ENTIRETY. ANY USE OF AUTHORSHIP OF THE BOHLER BOOK WITHOUT THE EXPRESS WRITTEN CONSENT OF BOHLER SHALL BE UTILIZED FOR CONSTRUCTION PURPOSES.

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY

811
Know what's below.
Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

PERMIT SET

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
JOSEPH M. SWEENEY
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

DETAIL SHEET

SHEET NUMBER:

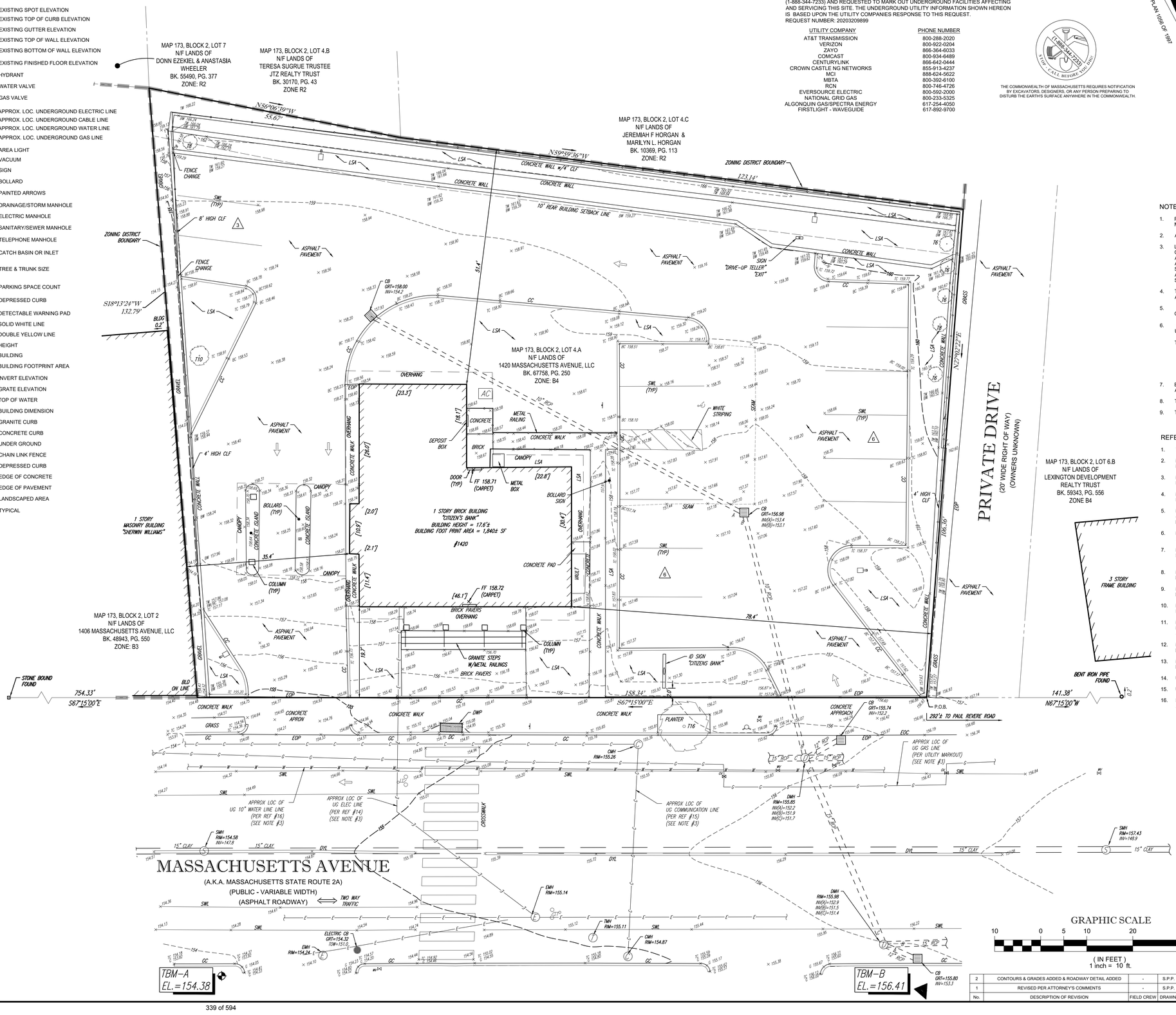
C-901

ORG. DATE - ##########

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LEGEND

124 / 125	EXISTING CONTOUR
× 123.45	EXISTING SPOT ELEVATION
× TC 123.45	EXISTING TOP OF CURB ELEVATION
× G 122.95	EXISTING GUTTER ELEVATION
× TW 123.45	EXISTING TOP OF WALL ELEVATION
× BW 122.95	EXISTING BOTTOM OF WALL ELEVATION
× FF 123.45	EXISTING FINISHED FLOOR ELEVATION
	HYDRANT
WV	WATER VALVE
GV	GAS VALVE
E	APPROX. LOC. UNDERGROUND ELECTRIC LINE
C	APPROX. LOC. UNDERGROUND CABLE LINE
W	APPROX. LOC. UNDERGROUND WATER LINE
G	APPROX. LOC. UNDERGROUND GAS LINE
	AREA LIGHT
V	VACUUM
	SIGN
	BOLLARD
	PAINTED ARROWS
DMH	DRAINAGE/STORM MANHOLE
EMH	ELECTRIC MANHOLE
SMH	SANITARY/SEWER MANHOLE
TMH	TELEPHONE MANHOLE
CB	CATCH BASIN OR INLET
	TREE & TRUNK SIZE
10	PARKING SPACE COUNT
	DEPRESSED CURB
DWP	DETECTABLE WARNING PAD
SWL	SOLID WHITE LINE
DYL	DOUBLE YELLOW LINE
HT	HEIGHT
BLDG	BUILDING
BFPA	BUILDING FOOTPRINT AREA
INV	INVERT ELEVATION
GRT	GRATE ELEVATION
TOW	TOP OF WATER
[123.4']	BUILDING DIMENSION
GC	GRANITE CURB
CC	CONCRETE CURB
UG	UNDER GROUND
CLF	CHAIN LINK FENCE
DC	DEPRESSED CURB
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
LSA	LANDSCAPED AREA
(TYP)	TYPICAL



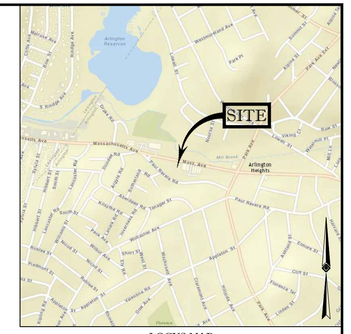
UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY MASSACHUSETTS ONE-CALL SYSTEM (1-888-344-7233) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.
REQUEST NUMBER: 20203209699

UTILITY COMPANY	PHONE NUMBER
AT&T TRANSMISSION	800-288-2020
VERIZON	800-922-0204
ZAYO	866-364-6033
COMCAST	800-934-6489
CENTURYLINK	866-642-0444
CROWN CASTLE NG NETWORKS	855-913-4237
MCI	888-624-5622
MBTA	800-392-6100
RCN	800-746-4726
EVERSOURCE ELECTRIC	800-592-2000
NATIONAL GRID GAS	800-233-5325
ALGONQUIN GAS/SPECTRA ENERGY	617-254-4050
FIRSTLIGHT - WAVEGUIDE	617-892-9700

THE COMMONWEALTH OF MASSACHUSETTS REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

PLAN 1026 OF 1967



LOCUS MAP
©2013 ESRI WORLD STREET MAPS
(NOT TO SCALE)

NOTES:

1. PROPERTY KNOWN AS LOT 1, BLOCK 1 AS SHOWN ON THE TOWN OF ARLINGTON, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS, MAP NO. 170.
2. AREA = 19,727 SQUARE FEET OR 0.453 ACRES
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
6. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), GEOID 12A, BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS) TAKEN AT THE TIME OF THE FIELD SURVEY.

   TEMPORARY BENCH MARKS SET:

   TBM-A: MAG NAIL SET IN BRICK SIDEWALK, ELEVATION = 154.38

   TBM-B: MAG NAIL SET IN BRICK SIDEWALK, ELEVATION = 156.41
7. BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF. #2
8. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
9. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.

REFERENCES:

1. THE TAX ASSESSOR'S MAP OF ARLINGTON, MIDDLESEX COUNTY, MASSACHUSETTS, SHEET #173.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS) PANEL 416 OF 656," MAP NUMBER 25017C0416E, EFFECTIVE DATE: JUNE 4, 2010.
3. MAP ENTITLED "PLAN OF LAND IN ARLINGTON BELONGING TO JOSEPH H. EATON," PREPARED BY J.O. GOODWIN, DATED DECEMBER 1895, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS.
4. MAP ENTITLED "PLAN OF LAND, 1406 MASSACHUSETTS AVE, ARLINGTON, MA," PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., DATED MARCH 9, 2010, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN NO. 464 OF 2010.
5. MAP ENTITLED "PHASE II PAUL REVERE CROSSING CONDOMINIUM, MODIFICATION, MASTER DEED PLAN IN ARLINGTON, MA (MIDDLESEX COUNTY)," PREPARED BY ROBER SURVEY, DATED SEPTEMBER 19, 2013, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 800 OF 2013.
6. MAP ENTITLED "SITE PLAN, 65-67 PAUL REVERE ROAD, CONDOMINIUM," PREPARED BY CCR ASSOCIATES, INC., DATED MARCH 12, 2012, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 177 OF 2012.
7. MAP ENTITLED "PAUL REVERE CROSSING CONDOMINIUM, MASTER DEED PLAN IN ARLINGTON, MA (MIDDLESEX COUNTY)," PREPARED BY ROBER SURVEY, DATED APRIL 1, 2013, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 217 OF 2013.
8. MAP ENTITLED "SUBDIVISION OF LAND IN ARLINGTON - MASS.," PREPARED BY JOSEPH J. SULLIVAN, DATED JUNE 1969, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 659 OF 1969.
9. MAP ENTITLED "PLAN OF LAND IN ARLINGTON, MA (MIDDLESEX COUNTY)," PREPARED BY H&R SURVEY, DATED AUGUST 18, 1997, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN NO. 1056 OF 1997.
10. MAP ENTITLED "SUBDIVISION PLAN OF LAND, ARLINGTON, MASS.," PREPARED BY SELWYN & KIRWIN ASSOCIATES, DATED DECEMBER 4, 1979, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 1527 OF 1979.
11. MAP ENTITLED "ALTA/ACSM LAND TITLED SURVEY, PREPARED FOR CITIZENS BANK, CITIZENS FINANCIAL GROUP, 1420 MASSACHUSETTS AVENUE, CITY OF ARLINGTON, COUNTY OF MIDDLESEX, STATE OF MASSACHUSETTS," PREPARED BY MILLMAN SURVEYING, DATED APRIL 18, 2006, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 1564 OF 2006.
12. MAP ENTITLED "SUB-DIVISION OF LAND IN ARLINGTON MASS," PREPARED BY JOS. J. SULLIVAN, DATED DECEMBER, 1952, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 66 OF 1953.
13. MAP ENTITLED "BOSTON EDISON COMPANY, TRANSMISSION AND DISTRIBUTION DEPT.," RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS IN BOOK 7343, PAGE 58.
14. UNDERGROUND ELECTRIC FACILITY MAPPING PROVIDED BY EVERSOURCE
15. UNDERGROUND COMMUNICATION LINE MAPPING PROVIDED BY RCN
16. PLAN SET ENTITLED "SITE REDEVELOPMENT PLANS FOR BIERBRIER DEVELOPMENT, INC. #1406 MASSACHUSETTS AVENUE, ARLINGTON, MA," DATED AUGUST 19, 2009, PREPARED BY ALLEN & MAJOR ASSOCIATES, INC.

CONTROL POINT ASSOCIATES, INC. - ALL RIGHTS RESERVED
THE CONTENTS OF THIS PLAN ARE THE COPYRIGHTED PROPERTY OF CONTROL POINT ASSOCIATES, INC. AND THE ORIGINAL PROJECT OR THE PURPOSE ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF CONTROL POINT ASSOCIATES, INC. IS PROHIBITED.

THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLACK INK SEAL

COMMONWEALTH OF MASSACHUSETTS — GERRY L. HOLDRIGHT NO. 49211 — REGISTERED PROFESSIONAL LAND SURVEYOR

8-28-20
DATE

GERRY L. HOLDRIGHT, PLS
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #49211

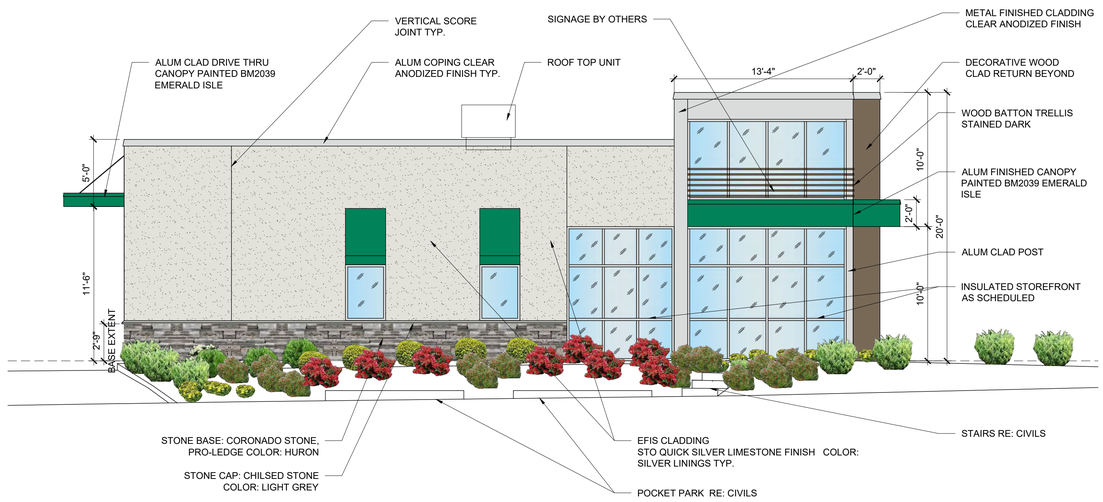
FIELD DATE	6-30-16
FIELD BOOK NO.	71-72
FIELD BOOK PG.	16-03MA
FIELD CREW	B.S.B.
DRAWN:	INDO
REVIEWED:	S.P.P.

BOUNDARY AND TOPOGRAPHIC SURVEY
1420 MASSACHUSETTS AVENUE, LLC
1420 MASSACHUSETTS AVENUE
LOT 4.A, BLOCK 2, MAP 173
TOWN OF ARLINGTON, MIDDLESEX COUNTY
COMMONWEALTH OF MASSACHUSETTS

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX
MANHATTAN, NY 646.780.0411
MT. LAUREL, NJ 609.857.2099
CHALFONT, PA 215.712.9800
WARREN, NJ 908.668.0099

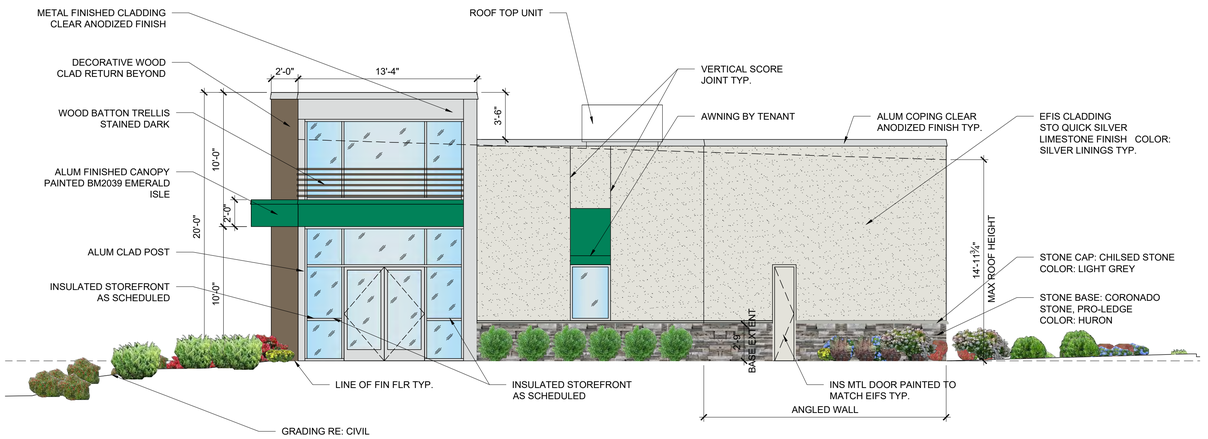
No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	CONTOURS & GRADES ADDED & ROADWAY DETAIL ADDED	-	S.P.P.	G.L.H.	08-28-2020
1	REVISED PER ATTORNEY'S COMMENTS	-	S.P.P.	G.L.H.	08-03-16

APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
G.L.H.	7-15-16	1"=10'	03-160131A	1 OF 1



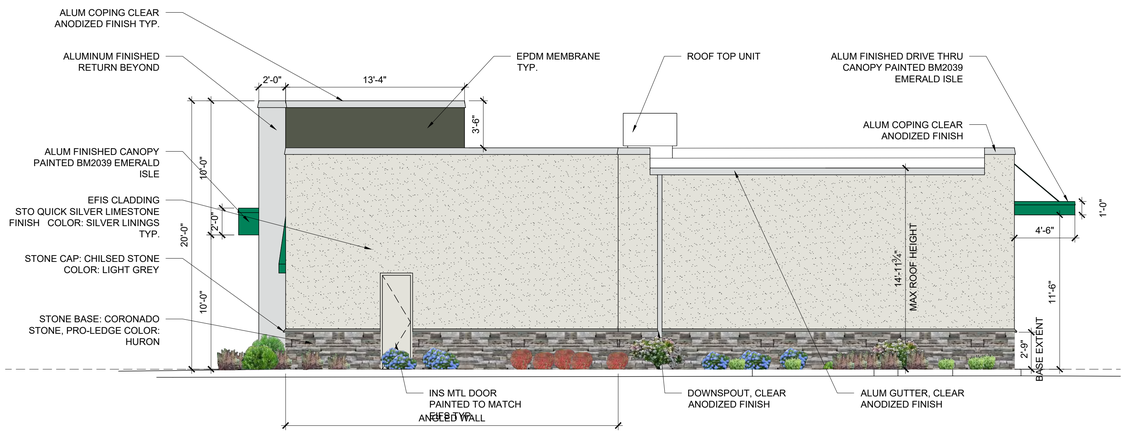
PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"



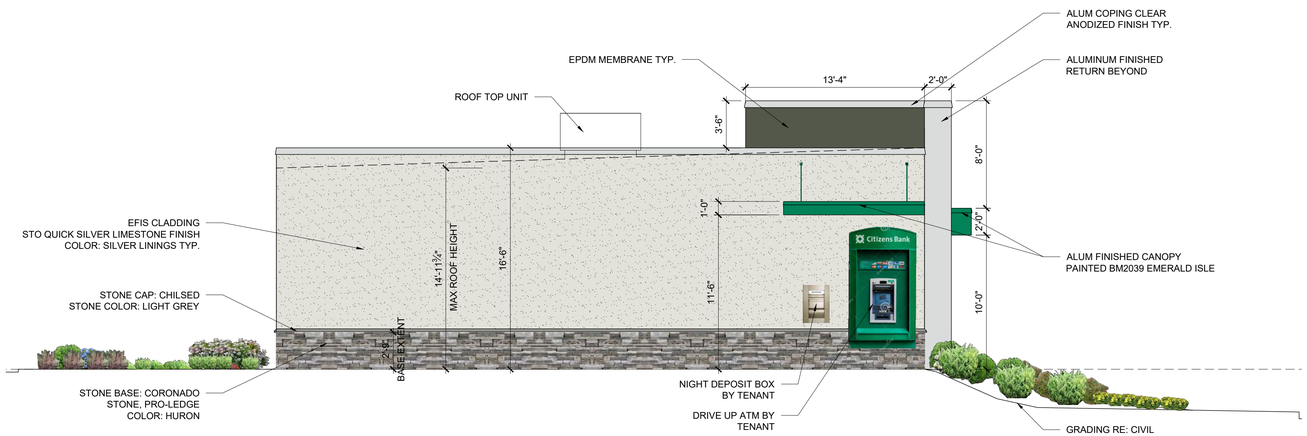
PROPOSED RIGHT SIDE ELEVATION

SCALE: 3/16"-1'-0"



PROPOSED REAR ELEVATION

SCALE: 3/16"-1'-0"



PROPOSED LEFT SIDE ELEVATION (DRIVE-THRU)

SCALE: 3/16"-1'-0"

Conceptual Elevations

Arlington, MA Citizens Bank Conceptual Elevations

1420 Massachusetts Ave. Arlington, MA

Prepared For

Bierbrier Development

SCALE: NOTED
20, January 2021

1 OF 1
DRAWN BY: DSG
PROJECT NO: 220145

BKA ARCHITECTS
Boston + Brockton
142 Crescent Street
Brockton, MA 02302
508.583.5603
bkaarchitects.com

DRAINAGE MEMORANDUM

For

Bierbrier Development

1420 Massachusetts Avenue
Town of Arlington, Massachusetts
Middlesex County

Prepared by:

BOHLER
352 Turnpike Road
Southborough, MA 01772
(508) 480-9900 TEL.



Joshua G. Swerling, P.E.
Massachusetts P.E. Lic. # 41697

BOHLER

January 21, 2021

#W161132

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- FEMA FIRMETTE

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I. SUMMARY

This report examines the changes in drainage that can be expected as the result of the redevelopment consisting of the demolition of the existing building and construction of a new 2,400± SF bank with associated utility construction and minor parking renovations located at 1420 Massachusetts Avenue in the Town of Arlington, Massachusetts. The site, which contains approximately 0.45 acres of land, contains an existing building, paved parking lot, and associated landscaped areas.

The proposed project includes the construction of a new 2,400± SF bank with associated ATM drive-through. The project also includes construction of new landscaped areas and a new pocket park area along with repaving of the existing parking lot. This report addresses a comparative analysis of the pre- and post-development site runoff conditions using the Rational Method. The project will also provide erosion and sedimentation controls during the demolition and construction periods, as well as long term stabilization of the site.

The majority of the site area currently drains to existing catch basins within the parking area that flow to an existing drain manhole within Massachusetts Avenue. The remainder of the site sheet flows toward Massachusetts Avenue. As a result of this redevelopment, a decrease in flow is expected to all discharge points as a result of the decrease of approximately 970 SF of impervious area.

The proposed site conditions will improve water quality through the decrease in impervious area. The building's roof will be directed to a landscaped depression to the south of the building that will also result in an increase of water quality from the existing condition. Implementation of stormwater Best Management Practices will comply with Massachusetts DEP standards. Stormwater management will meet all redevelopment requirements of the current Massachusetts Department of Environmental Protection Stormwater Policy Handbook and the Town of Arlington's requirements for stormwater drainage.

The soils at the site are mapped as Urban land and Canton-Charlton-Urban land complex Paxton-Urban land complex, which is classified as Hydraulic Soil Group (HSG) A. Based off the data

presented in the Report of Geotechnical Investigation prepared by Whitestone Associates, Inc., the site was modeled with HSG A. Refer to **Appendix C** for additional information.

II. RATIONAL DRAINAGE CALCULATIONS

EXISTING CONDITIONS

Coverage type	acres	pct.	"C"	frac.	
Impervious	0.35	0.78	0.95	0.74	
Landscape / Grass	0.1	0.22	0.30	0.07	
Total	0.45			0.8	(Composite "C")

PROPOSED CONDITIONS

Coverage type	acres	pct.	"C"	frac.	
Impervious	0.32	0.71	0.95	0.68	
Landscape / Grass	0.13	0.29	0.30	0.09	
Total	0.45			0.76	(Composite "C")

Time of Concentration 5 MIN

IDF Chart	"I"
2-yr storm	4.3
10-yr storm	5.8
50-yr storm	7.2
100-yr storm	8.0

RUNOFF CALCULATIONS "Q" = C x I x A

Existing Conditions	C	I	A	Q	
2-yr storm	0.80	4.3	0.448	1.55	cfs
10-yr storm	0.80	5.8	0.448	2.09	cfs
50-yr storm	0.80	7.2	0.448	2.60	cfs
100-yr storm	0.80	8.0	0.448	2.88	cfs

Proposed Conditions	C	I	A	Q	
2-yr storm	0.76	4.3	0.45	1.47	cfs
10-yr storm	0.76	5.8	0.45	1.99	cfs
50-yr storm	0.76	7.2	0.45	2.47	cfs
100-yr storm	0.76	8.0	0.45	2.74	cfs

Difference (Existing vs. Proposed)			
2-yr storm	-0.08	cfs	-5%
10-yr storm	-0.10	cfs	-5%
50-yr storm	-0.13	cfs	-5%
100-yr storm	-0.14	cfs	-5%

III. STORMWATER MANAGEMENT STANDARDS

Standard #1: No New Untreated Discharges

The project has been designed to maintain existing drainage patterns and the amount of impervious area discharging to Massachusetts Avenue has been decreased from the existing condition.

Standard #2: Peak Rate Attenuation

As outlined in **Section II**, the development of the site has been designed so that post-development peak rates of runoff as well as volume are below pre-development conditions for the 2-, 10-, 50-, and 100-year storm events.

Standard #3: Recharge

The project is a redevelopment and results in a decrease of impervious area. Thus, no recharge is required. However, on-site recharge will be increased due to the increase in pervious landscaped areas.

Standard #4: Water Quality

The project is a redevelopment and results in a decrease of impervious area. Thus, no water quality is required. However, water quality will be increased due to the increase in pervious area.

Standard #5: Land Use with Higher Potential Pollutant Loads

Not Applicable for this project.

Standard #6: Critical Areas

Not Applicable for this project.

Standard #7: Redevelopment

The site is considered a redevelopment and results in a decrease of approximately 970 SF of impervious area.

Standard #8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

The proposed project will provide construction period erosion and sedimentation controls as indicated within the site plan set provided for this project. This includes a proposed construction exit, protection for stormwater inlets, protection around temporary material stock piles and various other techniques as outlined on the erosion and sediment control sheets. Additionally, the project is required to file a Notice of Intent with the US EPA and implement a Stormwater Pollution Prevention Plan (SWPPP) during the construction period. The SWPPP will be prepared prior to the start of construction and will be implemented by the site contractor under the guidance and responsibility of the project's proponent.

Standard #9: Operation and Maintenance Plan (O&M Plan)

An Operation and Maintenance (O&M) Plan for this site has been prepared and is included in **Appendix E** of this report. The O&M Plan outlines procedures and timetables for the long term operation and maintenance of the proposed site stormwater management system, including initial inspections upon completion of construction and periodic monitoring of the system components, in accordance with established practices and the manufacturer's recommendations. The O&M Plan includes a list of responsible parties.

Standard #10: Prohibition of Illicit Discharges

The proposed stormwater system will only convey allowable non-stormwater discharges (firefighting waters, irrigation, air conditioning condensation, etc.) and will not contain any illicit discharges from prohibited sources.

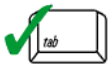
APPENDIX A: MASSACHUSETTS STORMWATER MANAGEMENT CHECKLIST

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.





A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

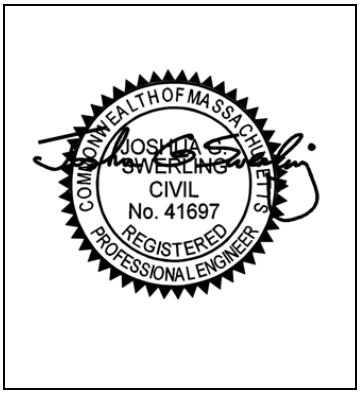
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☒ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☒ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☐ Use of “country drainage” versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☒ Soil Analysis provided.

☐ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☐ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

☐ Site is comprised solely of C and D soils and/or bedrock at the land surface

☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000

☐ Solid Waste Landfill pursuant to 310 CMR 19.000

☒ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☐ The BMP is sized (and calculations provided) based on:

- ☐ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☒ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☐ Description and delineation of public safety features;
- ☐ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☐ An Illicit Discharge Compliance Statement is attached;

☒ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

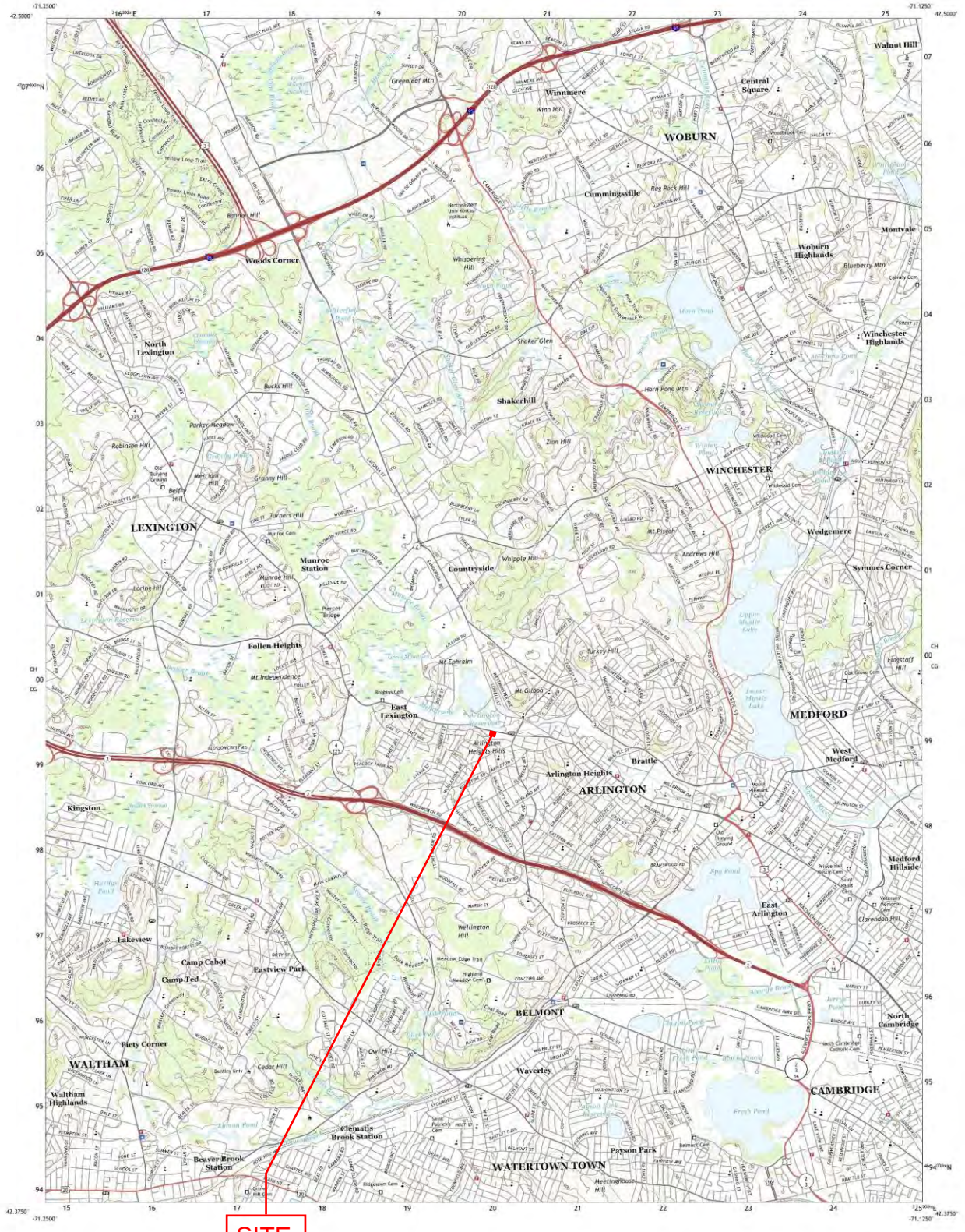
APPENDIX B: PROJECT LOCATION MAPS

- *USGS MAP*
- *FEMA FIRMETTE*

USGS science for a changing world
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

LEXINGTON QUADRANGLE
MASSACHUSETTS - MIDDLESEX COUNTY
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid Universal Transverse Mercator, Zone 19T
This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery ..... NAIP, July 2016 - September 2016
Roads ..... U.S. Census Bureau, 2016
Names ..... GNIS, 1974 - 2018
Hydrography ..... National Hydrography Dataset, 2005
Contours ..... National Elevation Dataset, 2008 - 2013
Boundaries ..... Multiple sources; see metadata file 2016 - 2017
Wetlands ..... FWS National Wetlands Inventory 1991 - 1995

SCALE 1:24 000
KILOMETERS 0 0.5 1 2
METERS 0 1000 2000
MILES 0 0.5 1
FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011. A metadata file associated with this product is draft version 0.6.18

ADJOINING QUADRANGLES
1 Billerica
2 Wilmington
3 Reading
4 Concord
5 Boston North
6 Natick
7 Newton
8 Boston South

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

LEXINGTON, MA
2018

National Flood Hazard Layer FIRMette

71°11'29"W 42°25'42"N



71°10'51"W 42°25'15"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

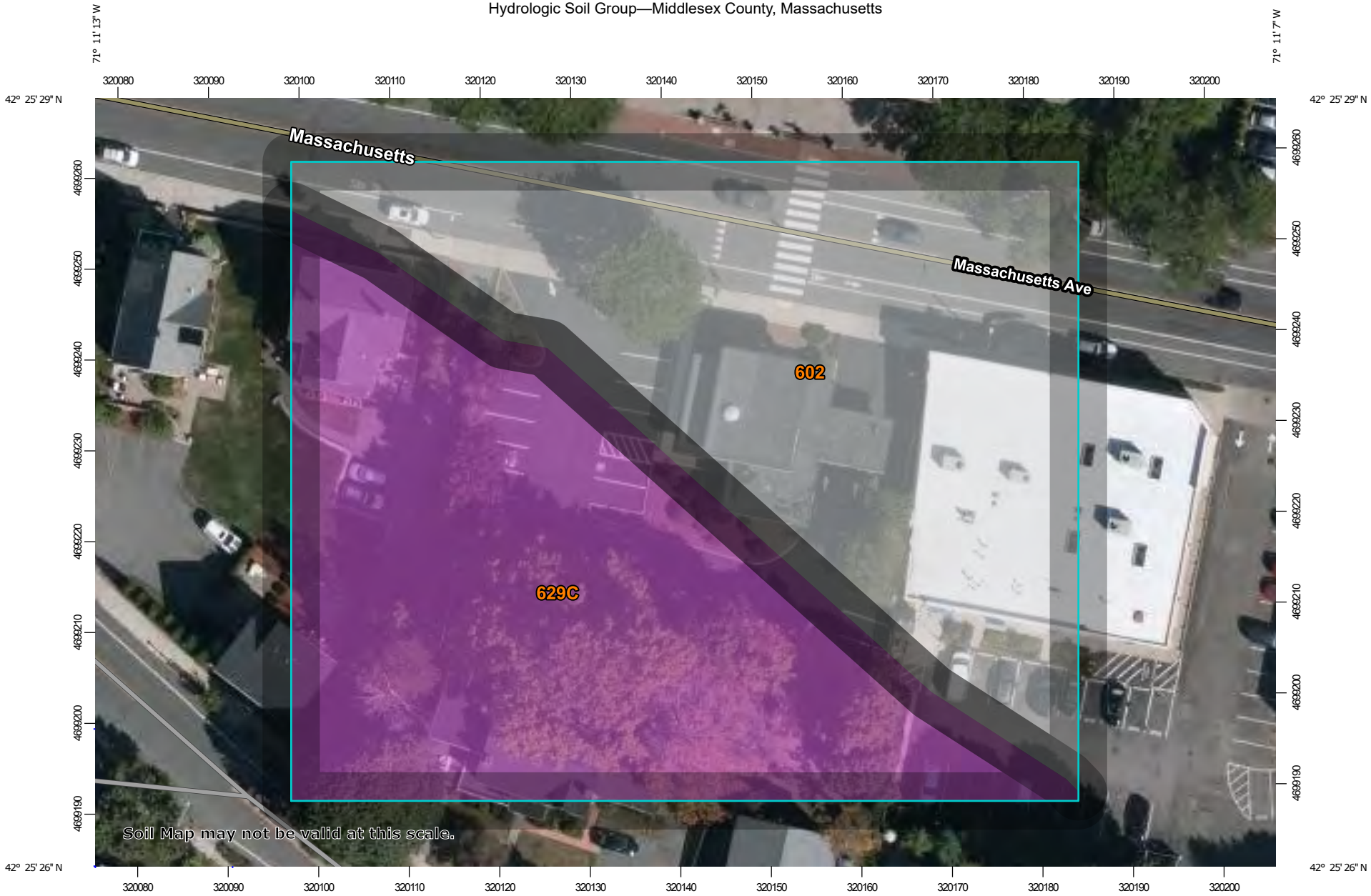
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/29/2020 at 9:32 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX C: SOIL AND WETLAND INFORMATION

- *NCRS CUSTOM SOIL RESOURCE REPORT*
- *SOIL TESTING RESULTS*



Map Scale: 1:596 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 20, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
602	Urban land		0.8	50.4%
629C	Canton-Charlton-Urban land complex, 3 to 15 percent slopes	A	0.8	49.6%
Totals for Area of Interest			**1.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

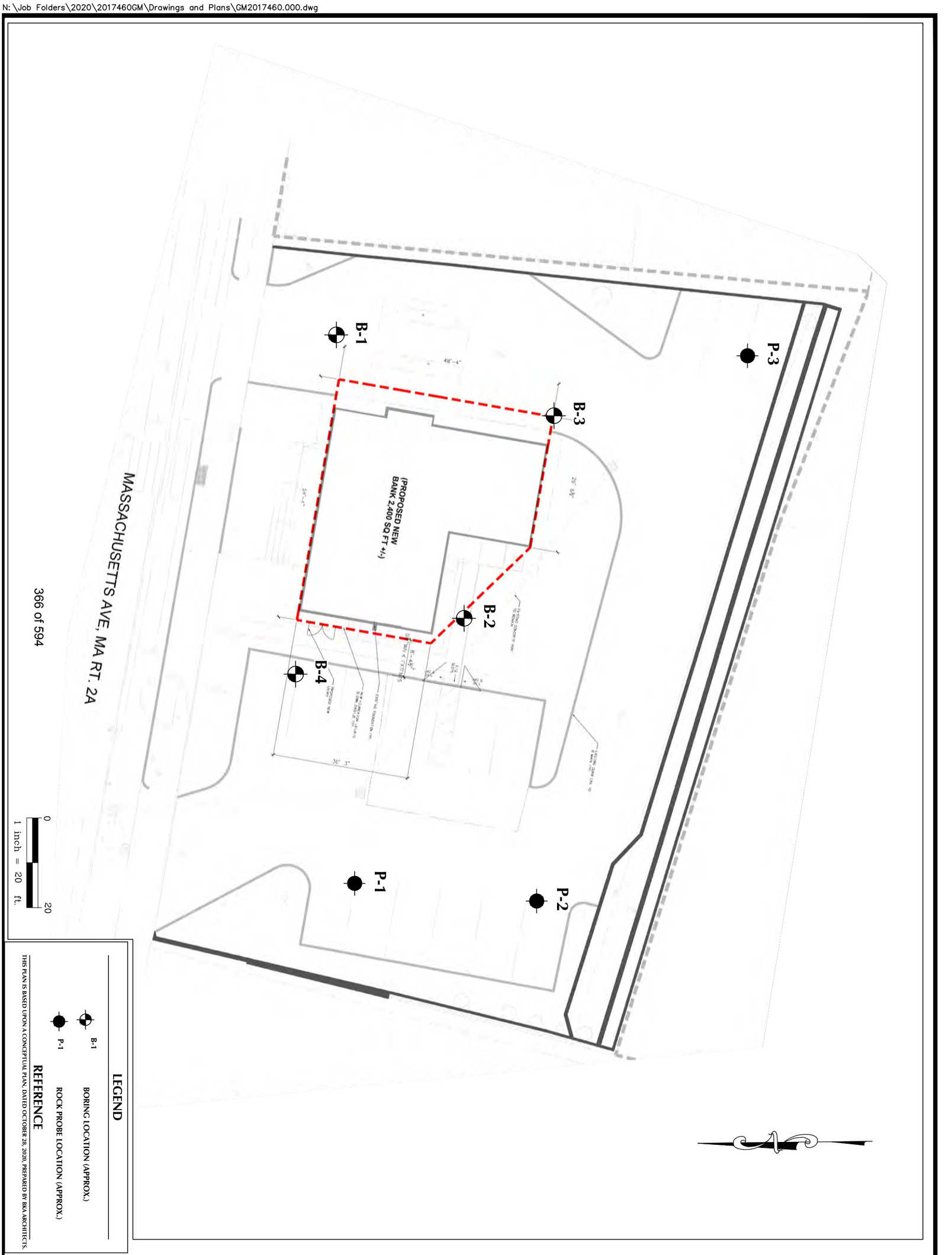
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

N: \Job Folders\2020\2017460GM\Drawings and Plans\GM2017460.000.dwg



LEGEND

B-1 — BORING LOCATION (APPROX.)

P-1 — ROCK PROBE LOCATION (APPROX.)

REFERENCE

THIS PLAN IS BASED UPON A CONCEPTUAL PLAN, DATED OCTOBER 28, 2020, PREPARED BY BKA ARCHITECTS.

PROJECT #: GM2017460.000

DESIGNED BY: MR

DATE: 11/24/20

SCALE: 1" = 20'

PROJ. MGR.: RR

FIGURE: 1

DRAWING TITLE:
BORING LOCATION PLAN

CLIENT:
1420 MASSACHUSETTS AVENUE, LLC
c/o BIERBRIER DEVELOPMENT

PROJECT:
PROPOSED CITIZENS BANK
1416 - 1420 MASSACHUSETTS AVENUE
ARLINGTON, MIDDLESEX COUNTY, MASSACHUSETTS

WHITESTONE ASSOCIATES, INC.
Environmental & Geotechnical Engineers & Consultants
16 OLD FORGE ROAD, SUITE A, ROCKY HILL, CT 06067
860.726.7889 WHITESTONEASSOC.COM

WHITESTONE ASSOCIATES, INC.

APPENDIX A
Records of Subsurface Exploration

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-1

Project:	Proposed Citizens Bank Rebuild	**WAI Project No.:**	GM2017460.000
Location:	1416 - 1420 Massachusetts Avenue, Arlington, Middlesex County, Massachusetts	**Client:**	1420 Massachusetts Avenue, LLC
Surface Elevation:	± NS feet above NAVD88	**Date Started:**	11/3/2020
Termination Depth:	22.0 feet bgs	**Date Completed:**	11/3/2020
Proposed Location:	Building	**Logged By:**	TU
Drill / Test Method:	HSA / SPT	**Contractor:**	SE
	Autohammer	**Equipment:**	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	10.0 | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
							PAVEMENT		4.5" Asphalt	
0 - 2	S-1		12 - 14 - 13 - 10	8	27				Brown, Medium Dense, Poorly Graded Sand with Silt and Gravel (FILL)	
2 - 4	S-2		25 - 18 - 7 - 9	6	25		EXISTING FILL		As Above (FILL)	
						5.0				
5 - 7	S-3		2 - 3 - 13 - 49	4	16	6.0			As Above, Loose (FILL)	
									Brown, Medium Dense, Poorly Graded Sand with Silt and Gravel (SP-SM)	
7 - 9	S-4		20 - 19 - 24 - 21	14	43				As Above, Dense (SP-SM)	
						10.0	GLACIO-FLUVIAL DEPOSIT			
10 - 12	S-5		11 - 10 - 12 - 13	12	22				As Above, Medium Dense (SP-SM)	
						15.0				
15 - 17	S-6		22 - 26 - 27 - 31	16	53				Brown, Very Dense, Silty Sand with Gravel (SM)	
							GLACIAL TILL			
						20.0				
20 - 22	S-7		12 - 21 - 37 - 40	10	58				As Above (SM)	
									Boring Log B-1 Terminated at a Depth of 22.0 Feet Below Ground Surface.	
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-2

Project:	Proposed Citizens Bank Rebuild	**WAI Project No.:**	GM2017460.000
Location:	1416 - 1420 Massachusetts Avenue, Arlington, Middlesex County, Massachusetts	**Client:**	1420 Massachusetts Avenue, LLC
Surface Elevation:	± NS feet above NAVD88	**Date Started:**	11/3/2020
Termination Depth:	20.0 feet bgs	**Date Completed:**	11/3/2020
Proposed Location:	Building	**Logged By:**	TU
Drill / Test Method:	HSA / SPT	**Contractor:**	SE
	Autohammer	**Equipment:**	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	10.0 | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
							TS		6" Mulch	
0 - 2	S-1		3 - 8 - 13 - 10	12	21		EXISTING FILL		Brown, Medium Dense, Poorly Graded Sand with Silt and Gravel (FILL)	
2 - 4	S-2		17 - 17 - 8 - 4	5	25	4.0			As Above (FILL)	
						5.0				
5 - 7	S-3		13 - 15 - 5 - 6	7	20				Brown, Medium Dense, Poorly Graded Sand with Silt and Gravel (SP-SM)	
7 - 9	S-4		7 - 6 - 6 - 6	8	12				As Above (SP-SM)	
						10.0				
10 - 12	S-5		10 - 12 - 8 - 9	7	20		GLACIO-FLUVIAL DEPOSIT		As Above (SP-SM)	
						15.0				
15 - 17	S-6		3 - 5 - 5 - 7	10	10				As Above, Loose to Medium Dense (SP-SM)	
						20.0				
									Boring Log B-2 Terminated upon Auger Refusal at a Depth of 20.0 fbgs.	
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-3

Project:	Proposed Citizens Bank Rebuild	**WAI Project No.:**	GM2017460.000
Location:	1416 - 1420 Massachusetts Avenue, Arlington, Middlesex County, Massachusetts	**Client:**	1420 Massachusetts Avenue, LLC
Surface Elevation:	± NS feet above NAVD88	**Date Started:**	11/11/2020
Termination Depth:	15.0 feet bgs	**Date Completed:**	11/11/2020
Proposed Location:	Building	**Logged By:**	TU
Drill / Test Method:	HSA / SPT	**Contractor:**	SE
	Autohammer	**Equipment:**	Mobile B-57

	Water Depth (feet bgs)	Elevation (ft NAVD88)	Cave-In Depth (feet bgs)	Elevation (ft NAVD88)
During:	10.0	--		
At Completion:	--	--	**At Completion:**	-- / --
24 Hours:	--	--	**24 Hours:**	-- / --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
							PAVEMENT		4.5" Asphalt	
0 - 2	S-1		14 - 15 - 18 - 12	14	33		EXISTING FILL		Brown, Dense, Poorly Graded Sand with Silt and Gravel (FILL)	
2 - 4	S-2		23 - 12 - 6 - 20	8	18	4.0			As Above, Medium Dense (FILL)	
						5.0				
5 - 7	S-3		20 - 12 - 8 - 9	2	20				Brown, Medium Dense, Poorly Graded Sand with Silt and Gravel (SP-SM)	
7 - 9	S-4		17 - 19 - 22 - 23	16	41				As Above, Dense (SP-SM)	
						10.0	GLACIO-FLUVIAL DEPOSIT			
10 - 12	S-5		5 - 7 - 7 - 9	20	14				As Above, Medium Dense (SP-SM)	
						15.0				
						20.0			Boring Log B-3 Terminated upon Auger Refusal at a Depth of 15.0 fbgs.	
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-4

Project:	Proposed Citizens Bank Rebuild	**WAI Project No.:**	GM2017460.000
Location:	1416 - 1420 Massachusetts Avenue, Arlington, Middlesex County, Massachusetts	**Client:**	1420 Massachusetts Avenue, LLC
Surface Elevation:	± NS feet above NAVD88	**Date Started:**	11/11/2020
Termination Depth:	12.5 feet bgs	**Date Completed:**	11/11/2020
Proposed Location:	Building	**Logged By:**	TU
Drill / Test Method:	HSA / SPT	**Contractor:**	SE
	Autohammer	**Equipment:**	Mobile B-57

	Water Depth (feet bgs)	Elevation (ft NAVD88)	Cave-In Depth (feet bgs)	Elevation (ft NAVD88)
During:	10.0	--		
At Completion:	--	--	**At Completion:** --	--
24 Hours:	--	--	**24 Hours:** --	--

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
							PAVEMENT		4.5" Asphalt	
0 - 2	S-1		7 - 19 - 20 - 28	15	39		EXISTING FILL		Brown, Dense, Poorly Graded Sand with Silt and Gravel (FILL)	
2 - 4	S-2		21 - 21 - 24 - 21	10	45	4.0			As Above (FILL)	
						5.0				
5 - 7	S-3		12 - 28 - 22 - 32	9	50		GLACIO-FLUVIAL DEPOSIT		Brown, Dense to Very Dense, Poorly Graded Sand with Silt and Gravel (SP-SM)	
7 - 9	S-4		19 - 18 - 32 - 23	15	50				As Above (SP-SM)	
						10.0				
10 - 12	S-5		7 - 17 - 9 - 9	9	26				As Above, Medium Dense (SP-SM)	
									Boring Log B-4 Terminated upon Auger Refusal at a Depth of 12.5 fbgs.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Probe No.: P-1

Project:	Proposed Citizens Bank Rebuild	**WAI Project No.:**	GM2017460.000
Location:	1416 - 1420 Massachusetts Avenue, Arlington, Middlesex County, Massachusetts	**Client:**	1420 Massachusetts Avenue, LLC
Surface Elevation:	± NS feet above NAVD88	**Date Started:**	11/11/2020
Termination Depth:	19.5 feet bgs	**Date Completed:**	11/11/2020
Proposed Location:	Parking	**Logged By:**	TU
Drill / Test Method:	Auger Probe / --	**Contractor:**	SE
		Equipment:	Mobile B-57

	Water Depth | Elevation (feet bgs) | (ft NAVD88)	Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)
During:	-- | --	
At Completion:	-- | --	**At Completion:** -- | --
24 Hours:	-- | --	**24 Hours:** -- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
						5.0				
						10.0				
						15.0				
						20.0			Probe Log P-1 Terminated upon Auger Refusal at a Depth of 19.5 fbgs.	
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Probe No.: P-2

Project:	Proposed Citizens Bank Rebuild	**WAI Project No.:**	GM2017460.000
Location:	1416 - 1420 Massachusetts Avenue, Arlington, Middlesex County, Massachusetts	**Client:**	1420 Massachusetts Avenue, LLC

				Water Depth | Elevation (feet bgs) | (ft NAVD88)	Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)
Surface Elevation:	± NS feet above NAVD88	**Date Started:**	11/11/2020		
Termination Depth:	16.0 feet bgs	**Date Completed:**	11/11/2020		
Proposed Location:	Parking	**Logged By:**	TU	**During:** -- | --	
Drill / Test Method:	Auger Probe / --	**Contractor:**	SE	**At Completion:** -- | --	**At Completion:** -- | --
		Equipment:	Mobile B-57	**24 Hours:** -- | --	**24 Hours:** -- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
						5.0				
						10.0				
						15.0				
									Probe Log P-2 Terminated upon Auger Refusal at a Depth of 16.0 fbgs.	
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE ASSOCIATES, INC.

RECORD OF SUBSURFACE EXPLORATION

Probe No.: P-3

Project:	Proposed Citizens Bank Rebuild	**WAI Project No.:**	GM2017460.000
Location:	1416 - 1420 Massachusetts Avenue, Arlington, Middlesex County, Massachusetts	**Client:**	1420 Massachusetts Avenue, LLC
Surface Elevation:	± NS feet above NAVD88	**Date Started:**	11/11/2020
Termination Depth:	20.0 feet bgs	**Date Completed:**	11/11/2020
Proposed Location:	Parking	**Logged By:**	TU
Drill / Test Method:	Auger Probe / --	**Contractor:**	SE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
						5.0				
						10.0				
						15.0				
						20.0			Probe Log P-3 Terminated upon Auger Refusal at a Depth of 20.0 fbgs.	
						25.0				

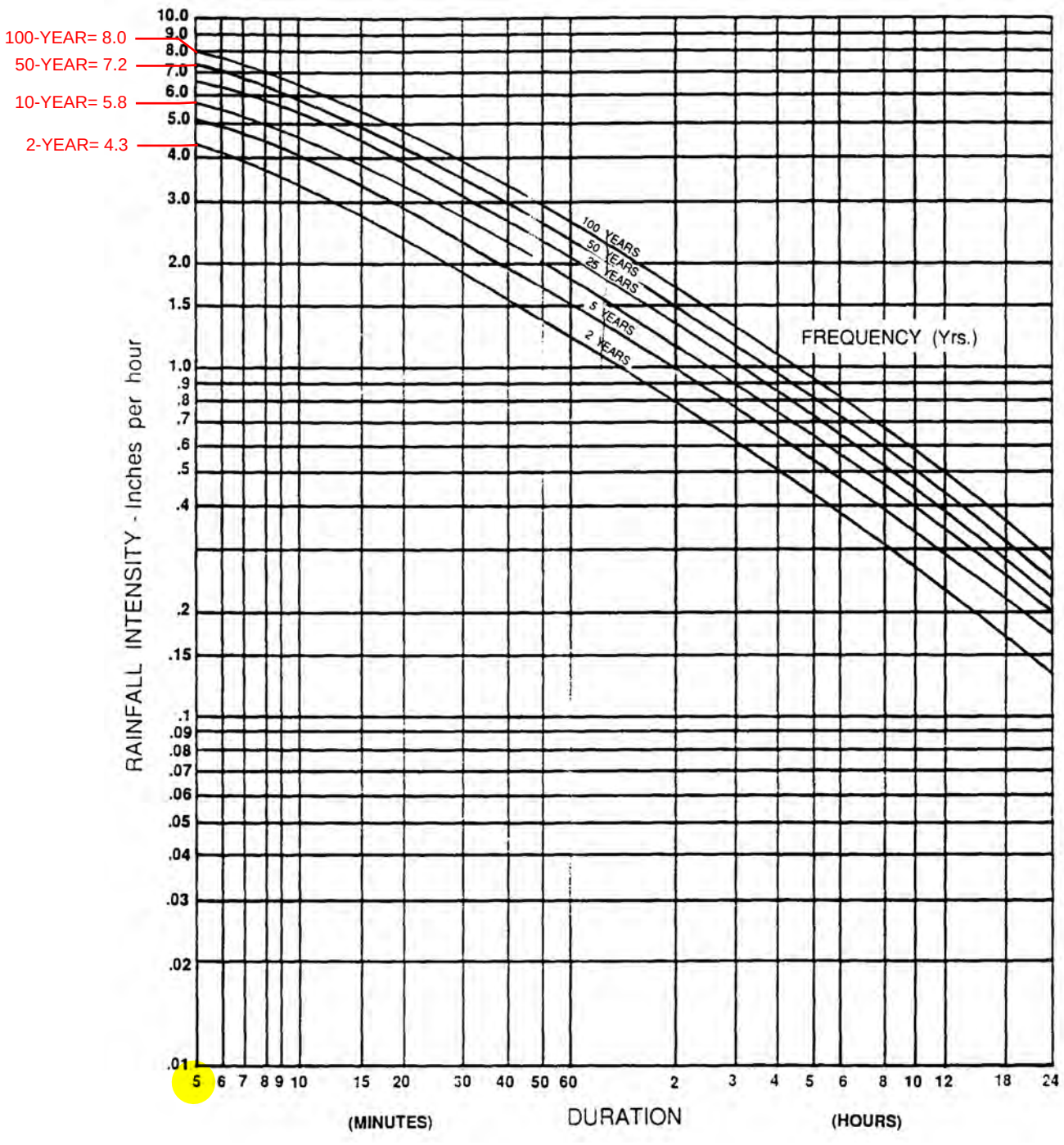
NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

APPENDIX D: RAINFALL DATA

- *INTENSITY-DURATION-FREQUENCY CURVE*

Exhibit 8-14

Intensity - Duration - Frequency Curve for Worcester, MA



Source: TR55 - Urban Hydrology for Small Wetlands, NRCS

APPENDIX E: OPERATION AND MAINTENANCE

- *STORMWATER OPERATION AND MAINTENANCE PLAN*
- *INSPECTION REPORT*
- *INSPECTION AND MAINTENANCE LOG FORM*
- *LONG-TERM POLLUTION PREVENTION PLAN*
- *ILLICIT DISCHARGE STATEMENT*
- *SPILL PREVENTION*

STORMWATER OPERATION AND MAINTENANCE PLAN

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

RESPONSIBLE PARTY DURING CONSTRUCTION:

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

RESPONSIBLE PARTY POST CONSTRUCTION:

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

Construction Phase

During the construction phase, all erosion control devices and measures shall be maintained in accordance with the final record plans, local/state approvals and conditions, the EPA Construction General Permit and the Stormwater Pollution Prevention Plan (SWPPP). Additionally, the maintenance of all erosion / siltation control measures during construction shall be the responsibility of the general contractor. Contact information of the OWNER and CONTRACTOR shall be listed in the SWPPP for this site. The SWPPP also includes information regarding construction period allowable and illicit discharges, housekeeping and emergency response procedures. Upon proper notice to the property owner, the Town/City or its authorized designee shall be allowed to enter the property at a reasonable time and in a reasonable manner for the purposes of inspection.

Post Development Controls

Once construction is completed, the post development stormwater controls are to be operated and maintained in compliance with the following permanent procedures (note that the continued implementation of these procedures shall be the responsibility of the Owner or its assignee):

1. Parking lots and on-site driveways: Sweep at least four (4) times per year and on a more frequent basis depending on sanding operations. All resulting sweepings shall be collected and properly disposed of offsite in accordance with MADEP and other applicable requirements.

2. Catch basins, manholes and piping: Inspect four (4) times per year and at the end of foliage and snow-removal seasons. These features shall be cleaned four (4) times per year. or whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the catch basin or underground system. Accumulated sediment and hydrocarbons present must be removed and properly disposed of off site in accordance with MADEP and other applicable requirements.

STORMWATER MANAGEMENT SYSTEM

POST-CONSTRUCTION INSPECTION REPORT

LOCATION:

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

RESPONSIBLE PARTY:

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

NAME OF INSPECTOR:	INSPECTION DATE:
Note Condition of the Following (sediment depth, debris, standing water, damage, etc.):	
Catch Basins:	
Discharge Points/ Flared End Sections / Rip Rap:	
Other:	
Note Recommended Actions to be taken on the Following (sediment and/or debris removal, repairs, etc.):	
Catch Basins:	

Discharge Points / Rip Rap:
Other:
Other:
Comments:

STORMWATER INSPECTION AND MAINTENANCE LOG FORM			
Bierbrier Development, Inc. ***1420 Massachusetts Avenue – Arlington, MA***			
Stormwater Management Practice	Responsible Party	Date	Maintenance Activity Performed

LONG-TERM POLLUTION PREVENTION PLAN

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

RESPONSIBLE PARTY DURING CONSTRUCTION:

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

RESPONSIBLE PARTY POST CONSTRUCTION:

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

For this site, the Long-Term Pollution Prevention Plan will consist of the following:

- No outdoor maintenance or washing of vehicles allowed.
- The property owner shall be responsible for "good housekeeping" including proper periodic maintenance of building and pavement areas, curbing, landscaping, etc.
- Proper storage and removal of solid waste (dumpsters).
- Sweeping of driveways a minimum of twice per year with a commercial cleaning unit. Any sediment removed shall be disposed of in accordance with applicable local and state requirements.
- Regular inspections and maintenance of Stormwater Management System as noted in the "O&M Plan".
- Snow removal shall be the responsibility of the property owner. Snow shall not be plowed, dumped and/or placed in forebays, infiltration basins or similar stormwater controls. Salting and/or sanding of pavement / walkway areas during winter conditions shall only be done in accordance with all state/local requirements and approvals.

OPERATON AND MAINTENANCE TRAINING PROGRAM

The Owner will coordinate an annual in-house training session to discuss the Operations and Maintenance Plan, the Long-Term Pollution Prevention Plan, and the Spill Prevention Plan and response procedures. Annual training will include the following:

Discuss the Operations and Maintenance Plan

- Explain the general operations of the stormwater management system and its BMPs
- Identify potential sources of stormwater pollution and measures / methods of reducing or eliminating that pollution
- Emphasize good housekeeping measures

Discuss the Spill Prevention and Response Procedures

- Explain the process in the event of a spill
- Identify potential sources of spills and procedures for cleanup and /or reporting and notification
- Complete a yearly inventory or Materials Safety Data sheets of all tenants and confirm that no potentially harmful chemicals are in use.
- Trash and other debris shall be removed from all areas of the site at least twice yearly.
- In no case shall snow be disposed of or stored in resource areas (wetlands, floodplain, streams or other water bodies).
- If necessary, stockpiled snow will be removed from the Site and disposed of at an off-site location in accordance with all local, state and federal regulations.

ILLICIT DISCHARGE STATEMENT

Certain types of non-stormwater discharges are allowed under the U.S. Environmental Protection Agency Construction General Permit. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this LTPPP will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. Any existing illicit discharges, if discovered during the course of the work, will be reported to MassDEP and the local DPW, as applicable, to be addressed in accordance with their respective policies. No illicit discharges will be allowed in conjunction with the proposed improvements.

Duly Acknowledged:

_____

Name & Title

SPILL PREVENTION AND RESPONSE PROCEDURES (POST CONSTRUCTION)

In order to prevent or minimize the potential for a spill of Hazardous Substances or Oil or come into contact with stormwater, the following steps will be implemented:

1. All Hazardous Substances or Oil (such as pesticides, petroleum products, fertilizers, detergents, acids, paints, paint solvents, cleaning solvents, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.

2. The minimum practical quantity of all such materials will be kept on site.

3. A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided on site.

4. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.

5. It is the OWNER's responsibility to ensure that all Hazardous Waste on site is disposed of properly by a licensed hazardous material disposal company. The OWNER is responsible for not exceeding Hazardous Waste storage requirements mandated by the EPA or state and local authorities.

In the event of a spill of Hazardous Substances or Oil, the following procedures should be followed:

1. All measures should be taken to contain and abate the spill and to prevent the discharge of the Hazardous Substance or Oil to stormwater or off-site. (The spill area should be kept well ventilated and personnel should wear appropriate protective clothing to prevent injury from contact with the Hazardous Substances.)

2. For spills of less than five (5) gallons of material, proceed with source control and containment, clean-up with absorbent materials or other applicable means unless an imminent hazard or other circumstances dictate that the spill should be treated by a professional emergency response contractor.

3. For spills greater than five (5) gallons of material immediately contact the MADEP at the toll-free 24-hour statewide emergency number: **1-888-304-1133**, the local fire department (**9-1-1**) and an approved emergency response contractor. Provide information on the type of material spilled, the location of the spill, the quantity spilled, and the time of the spill to the emergency response contractor or coordinator, and proceed with prevention, containment and/or clean-up if so desired. (Use the form provided, or similar).

4. If there is a Reportable Quantity (RQ) release, then the National Response Center should be notified immediately at (800) 424-8802; within 14 days a report should be submitted to the EPA regional office describing the release, the date and circumstances of the release and the steps taken to prevent another release. This Pollution Prevention Plan should be updated to reflect any such steps or actions taken and measures to prevent the same from reoccurring.

SPILL PREVENTION CONTROL AND COUNTERMEASURE FORM

Bierbrier Development, Inc.
1420 Massachusetts Avenue
Arlington, MA

Where a release containing a hazardous substance occurs, the following steps shall be taken by the facility manager and/or supervisor:

1. Immediately notify The Auburn Fire Department (at **9-1-1**)

2. All measures must be taken to contain and abate the spill and to prevent the discharge of the pollutant(s) to off-site locations, receiving waters, wetlands and/or resource areas.

3. Notify the Arlington Board of Health at (781) 316-3170 and the Conservation Commission at (781) 316-3012.

4. Provide documentation from licensed contractor showing disposal and cleanup procedures were completed as well as details on chemicals that were spilled to the Town of Arlington Board of Health and Conservation Commission.

Date of spill:_____ Time:_____ Reported By:_____

Weather Conditions:_____

Material Spilled	**Location of Spill**	**Approximate Quantity of Spill (in gallons)**	**Agency(s) Notified**	**Date of Notification**

Cause of Spill:_____

_____

Measures Taken to Clean up Spill:_____

_____

Type of equipment: _____ Make: _____ Size:_____

License or S/N: _____

Location and Method of Disposal_____

_____

Procedures, method, and precautions instituted to prevent a similar occurrence from recurring:_____

_____

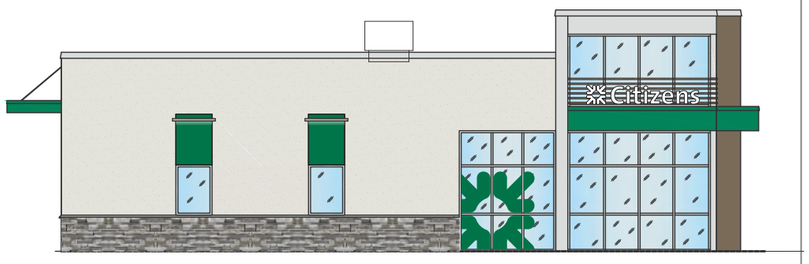
Additional Contact Numbers:

- DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) EMERGENCY PHONE: 1-888-304-1133
- NATIONAL RESPONSE CENTER PHONE: (800) 424-8802
- U.S. ENVIRONMENTAL PROTECTION AGENCYPHONE: (888) 372-7341

Citizens

SIGN SUBMITTAL PACKAGE

Arlington Heights



GENERAL NOTES & PERMIT TIMES

ELECTRICAL ACCESS

It is recommend for Electrician to put all exterior signage on a single circuit with a timer or photo-cell to allow for signs to illuminate at night only.

TABLE OF CONTENTS

PAGE	SIGN TYPE	SQ.FT.	COLOR	VARIANCE REQUIRED?	VARIANCE EXPLANATION (IF REQD.)
2	Site map				
	Massachusetts Avenue				
3	S1 - ICLL-2-18 - Illum. White channel letters	15.09	White	No	
4	S3 - ALB-1 - Green awning with light bar	-	Green	No	
11	S8 - Green window vinyl	-	Green	No	
7	S9 - DHR-2 - Door hours double doors	-	White	No	
7	S10 - DH-1 - Door handles	-	Green	No	
	Total Sign Area Requested this Elevation	15.09			
	Right Side (West) Entry Elevation				
5	S2 - ICLL-2-18 - Illum. White channel letters	15.09	White	Yes	
6	S4 - ALB-1 - Green awning with light bar	-	Green	No	
	Total Sign Area Requested this Elevation	15.09			
	Left Side (East) Drive Thru				
8	S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.	-	Green	No	
8	S6 - ATM-NGP-1 - ATM network panel	-	Gray	No	
10	S7 - ICLL-1-15- Illum. Green Channel letters	10.5	Green	Yes	
	Total Sign Area Requested this Elevation	10.5			
	Freestanding Signage				
12	S11 - D/F Pylon Sign Reface				
13	Code Check				
	Total Sign Area Allowable	40			
	Total Sign Area Requested	40.68			
	Difference	0.68			

AGI

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www.AGI.net

BRANCH NUMBER: R/C NUMBER:
REQUIRES VARIANCE: ☐NO ☑YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

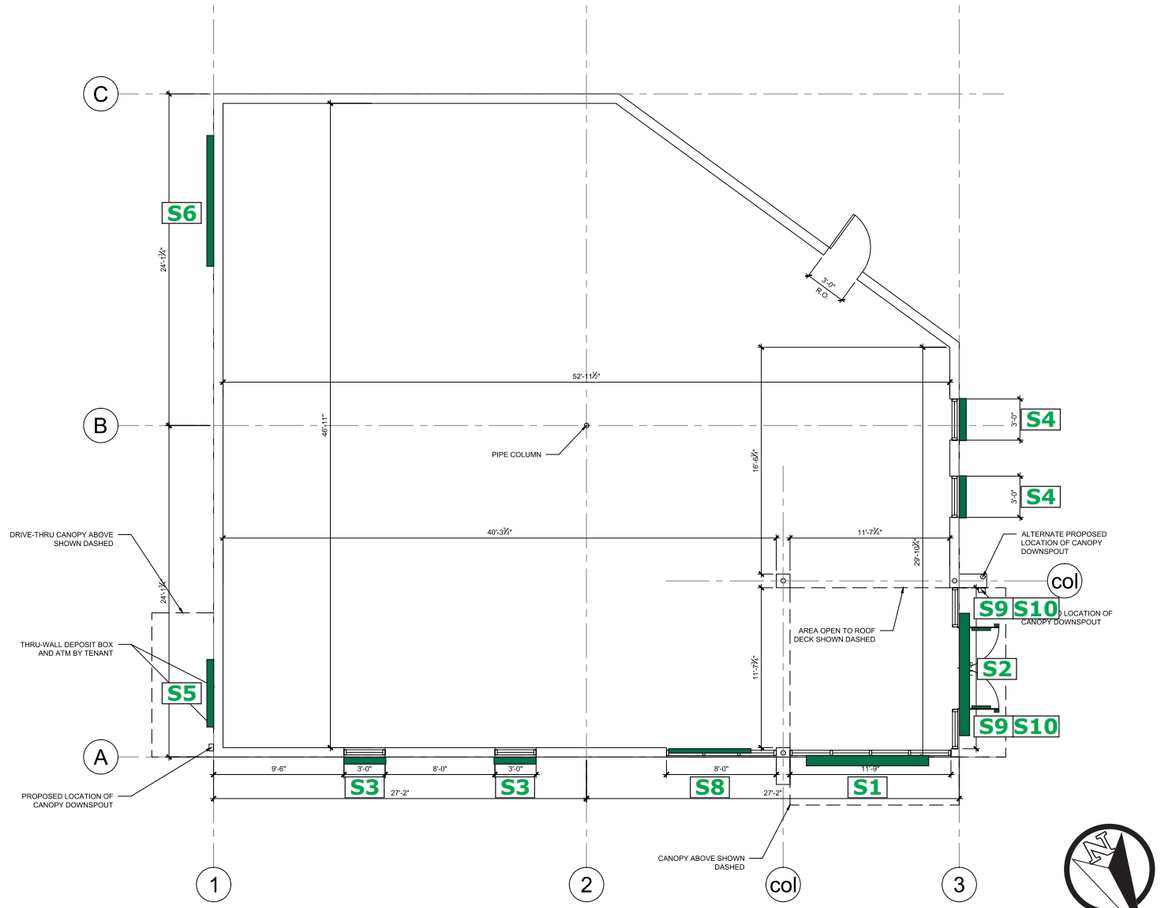
CONTACTS

PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

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PROPOSED FLOOR PLAN

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BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER **DATE:** 1/12/2021 **REV. DATE:** 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS
PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

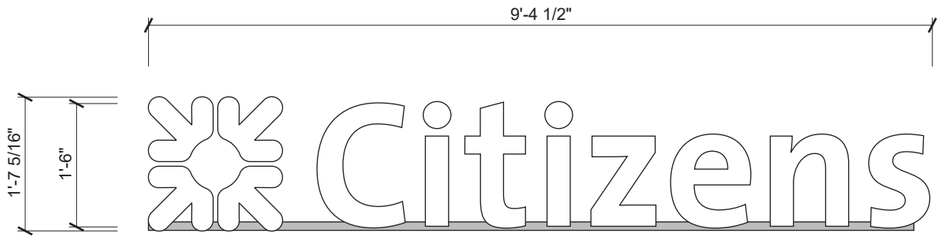
APPROVAL STAMP:

SITE MAP

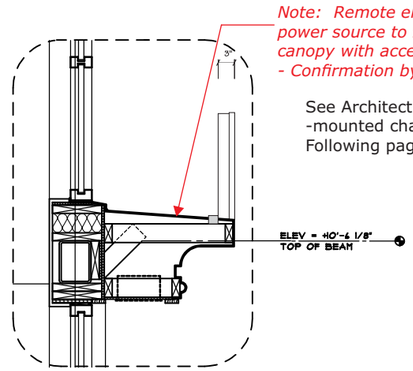
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S1 - ICLL-2-18- Channel Letters, White - illuminated, Horizontal 1’-7 5/16” OAH x 9’-4 1/2” OAW, 15.09 SF

Note: Electrical required 120v @ 3 amps required. Conduit run to sign, provided by GC.

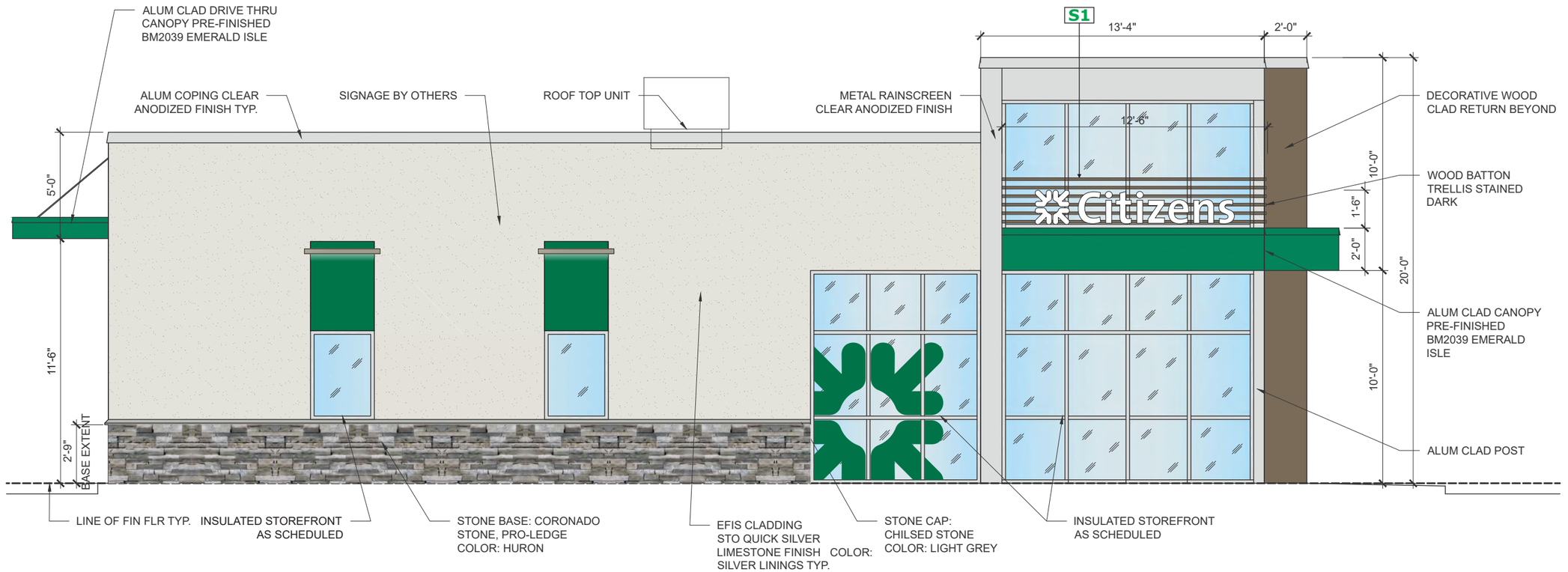


ICLL-2-18



Note: Remote electrical wiring and power source to be housed inside canopy with access panel provided - Confirmation by Architect and GC

See Architectural Detail for canopy -mounted channel letters Following page



PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

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BRANCH NUMBER: **R/C NUMBER:**
REQUIRES VARIANCE: ☐NO ☐YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER **DATE:** 1/12/2021 **REV. DATE:** 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS
PROJECT MANAGER: Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

MARKET STREET

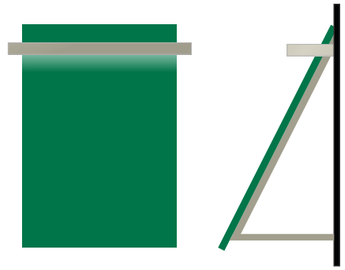
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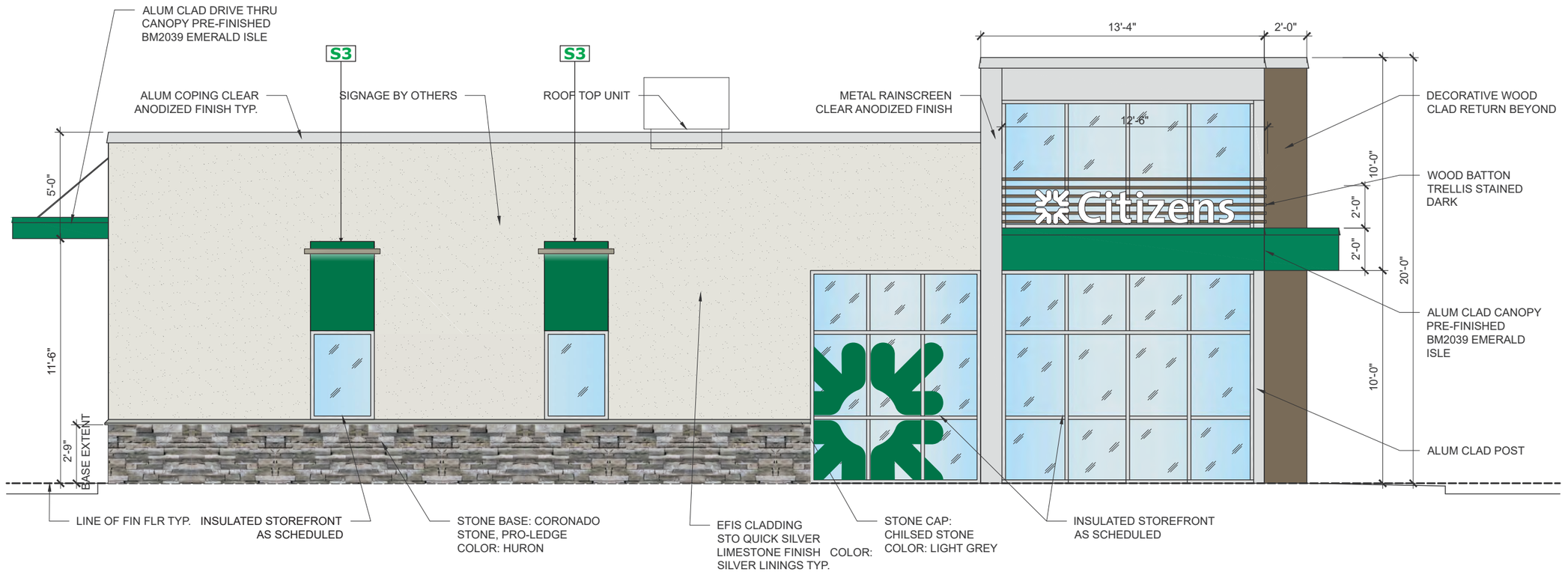
S3 - ALB-1 - Green awning with light bar

Note: Dimensions (±4'-2"H x ±3'-0"W) to be verified

Note: Electrical required 120v @ 3 amps required.

Conduit stub out required for awning light bar by GC.





PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

AGI

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PHONE: (757) 427-1900 - FAX: (757) 430-1297
www.AGI.net

BRANCH NUMBER: **R/C NUMBER:**

REQUIRES VARIANCE: ☐NO ☐YES ☐TBD

BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA

DESIGNER: JER **DATE:** 1/12/2021 **REV. DATE:** 1/14/2021

PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS

PROJECT MANAGER:
Devin White

CITIZENS BANK PROJECT MANAGER:

CITIZENS BANK DESIGN MANAGER:

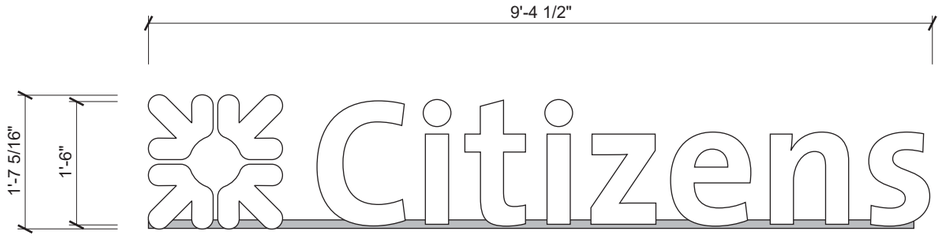
APPROVAL STAMP:

MARKET STREET

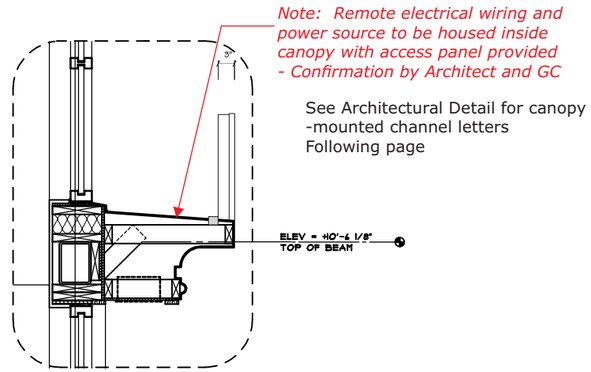
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S2 - ICLL-2-18- Channel Letters, White - illuminated, Horizontal 1’-7 5/16” OAH x 9’-4 1/2” OAW, 15.09 SF

Note: Electrical required 120v @ 3 amps required. Conduit run to sign, provided by GC.

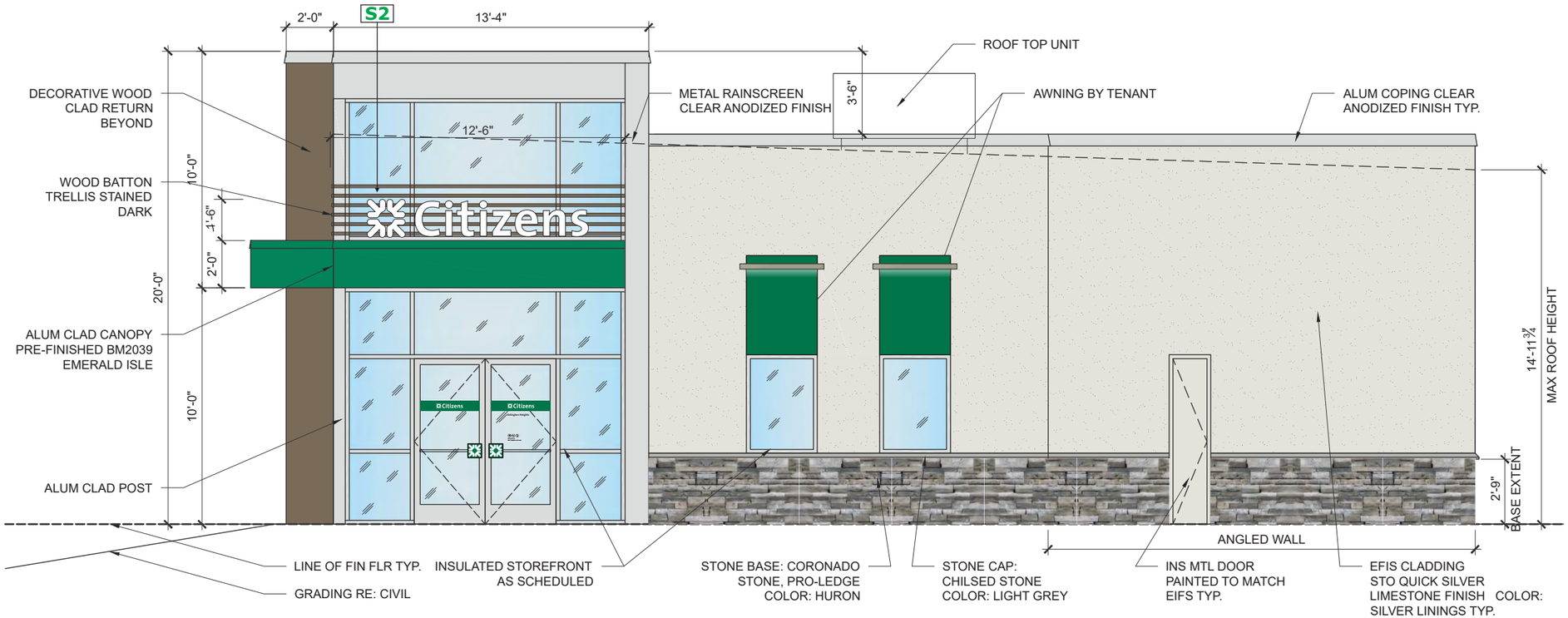


ICLL-2-18



Note: Remote electrical wiring and power source to be housed inside canopy with access panel provided - Confirmation by Architect and GC

See Architectural Detail for canopy -mounted channel letters Following page



PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

SCALE: 3/16"-1'-0"

AGI
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BRANCH NUMBER: **R/C NUMBER:**
REQUIRES VARIANCE: ☐NO ☐YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER **DATE:** 1/12/2021 **REV. DATE:** 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS
PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

MARKET STREET

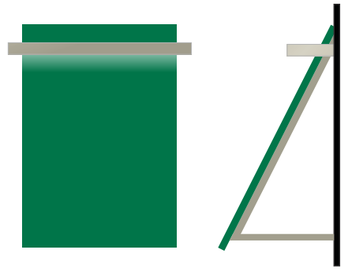
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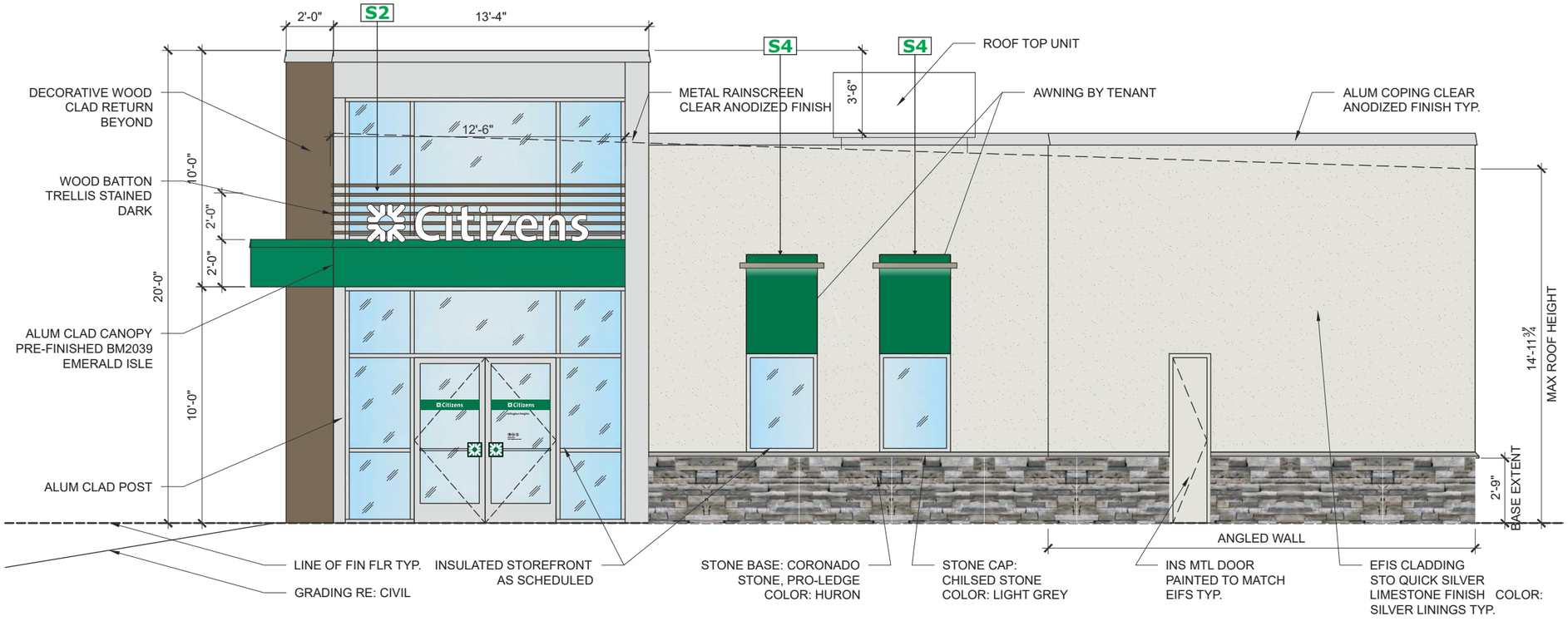
S4 - ALB-1 - Green awning with light bar

Note: Dimensions (±4'-2"H x ±3'-0"W) to be verified

Note: Electrical required 120v @ 3 amps required.

Conduit stub out required for awning light bar by GC.





PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

SCALE: 3/16"-1'-0"

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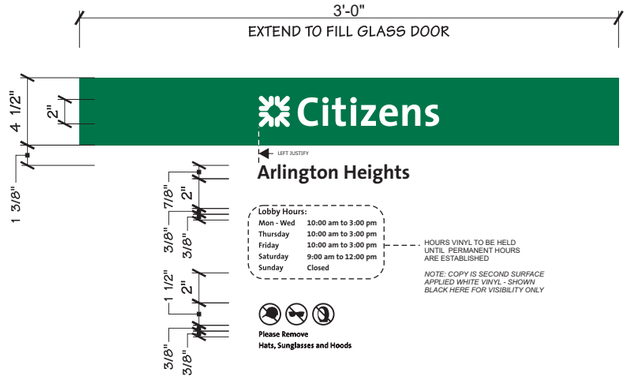
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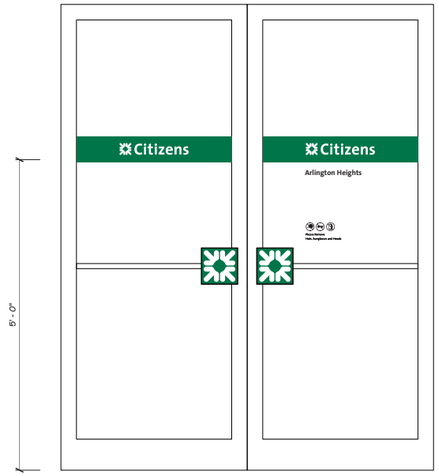
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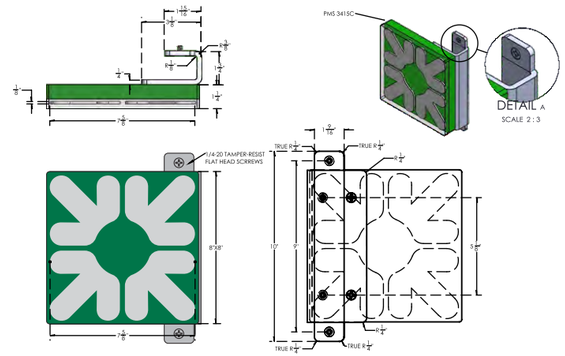
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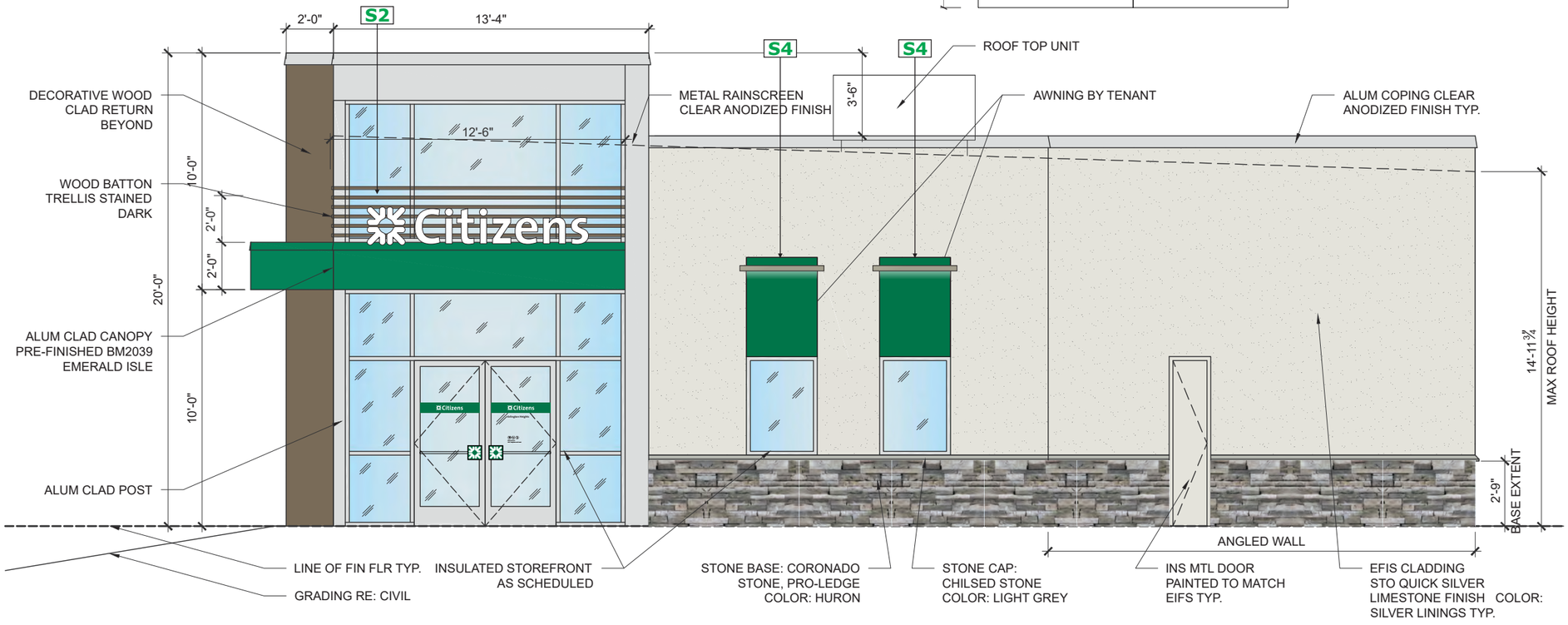
S9 - DHR-2 - Door hours double doors
S10 - DH-1 - Door handles
Note: Lock position is under the handle.





Door Handles
DH-1





PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

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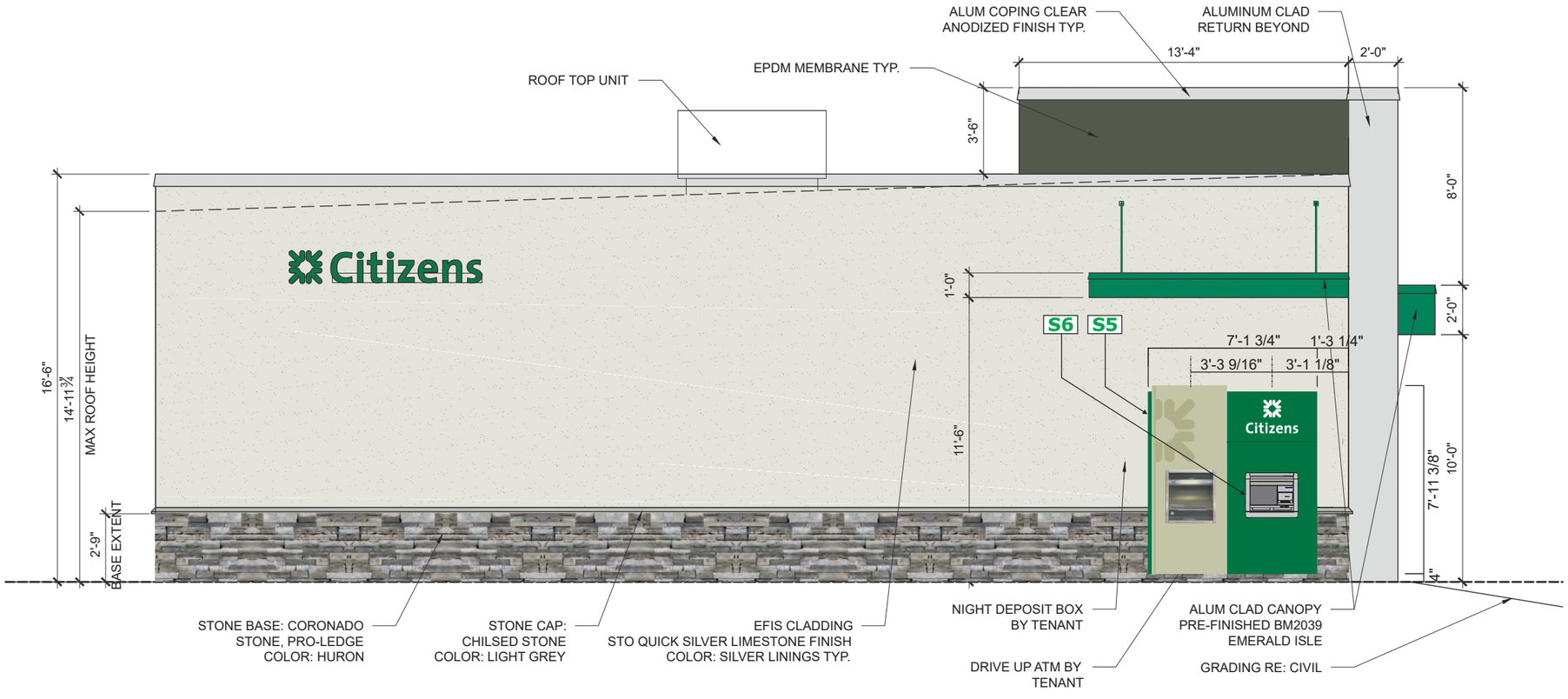
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S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.
S6 - ATM-NGP-1 - ATM network panel
Note: Dimensions and placement of ATM and Night Depository to be confirmed



PROPOSED LEFT SIDE ELEVATION (DRIVE-THRU)

SCALE: 3/16"-1'-0"

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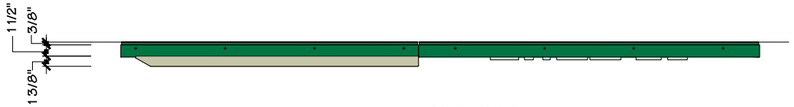
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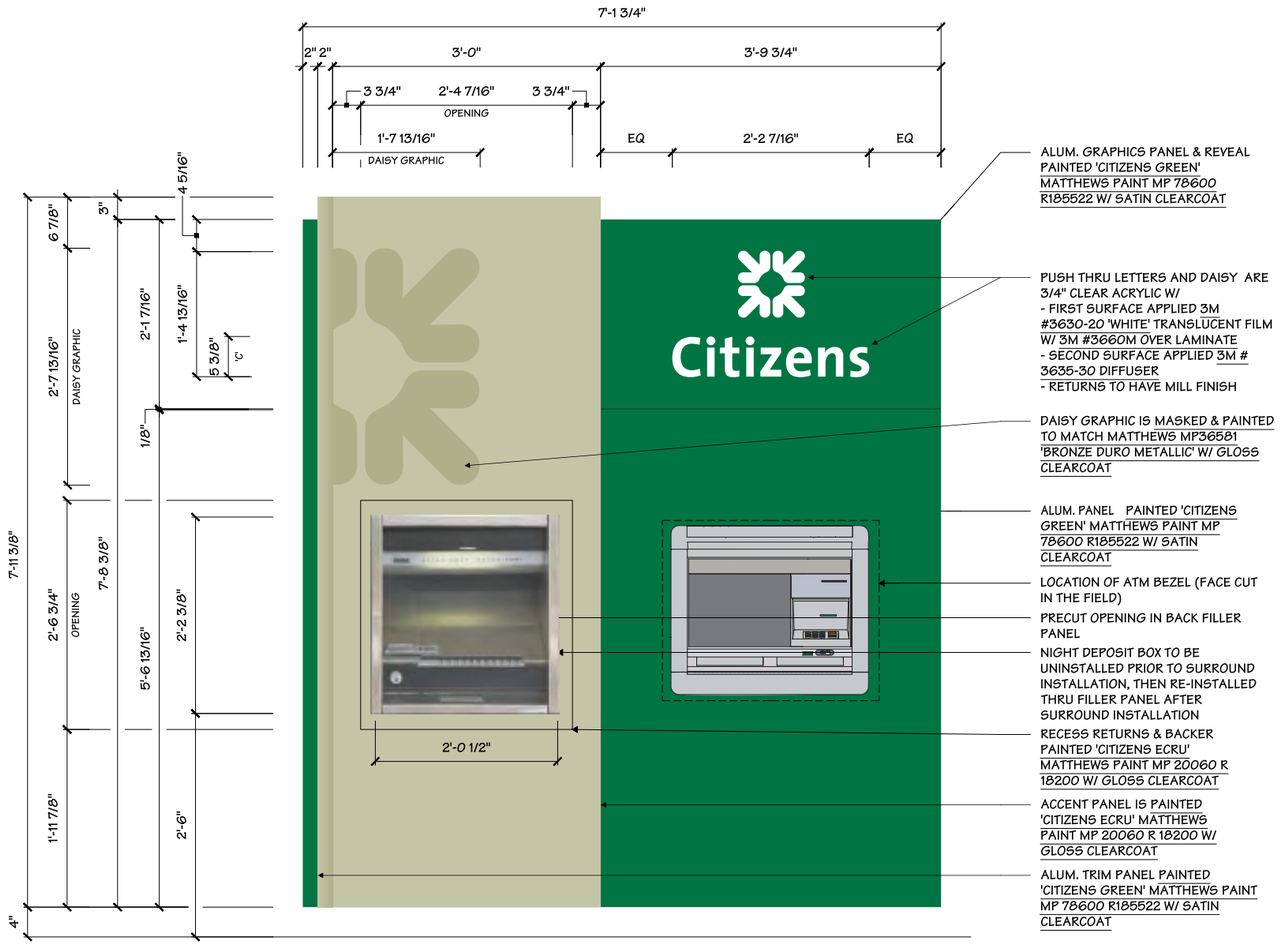
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S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.
S6 - ATM-NGP-1 - ATM network panel
Note: Dimensions and placement of ATM and Night Depository to be confirmed

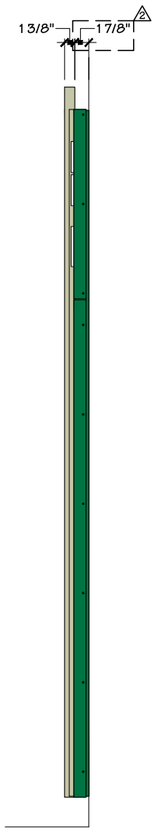
NOTES:
1.) CABINET INTERIOR TO BE PAINTED SPRAYLAT STAR-BRITE LIGHT ENHANCEMENT PAINT.
2.) ATM OPENING & BEZEL SHOWN ARE FOR NCR 6684 PER DESIGN INTENT DRAWINGS.



1/1 TOP VIEW

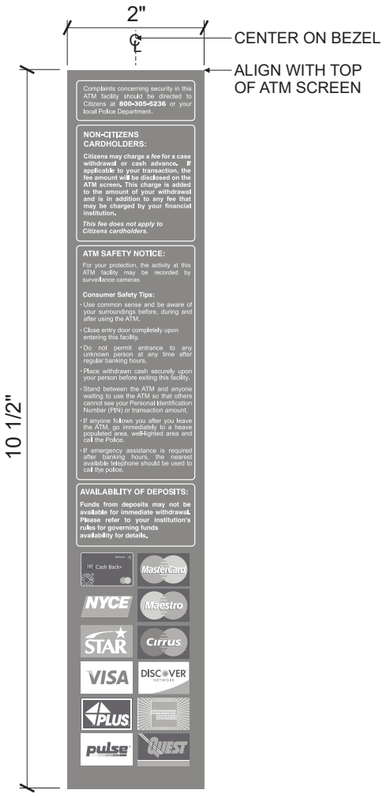


2/1 FRONT ELEVATION



3/1 END VIEW

Note: Artwork for Post Birch NGP-1 to be verified by CFG



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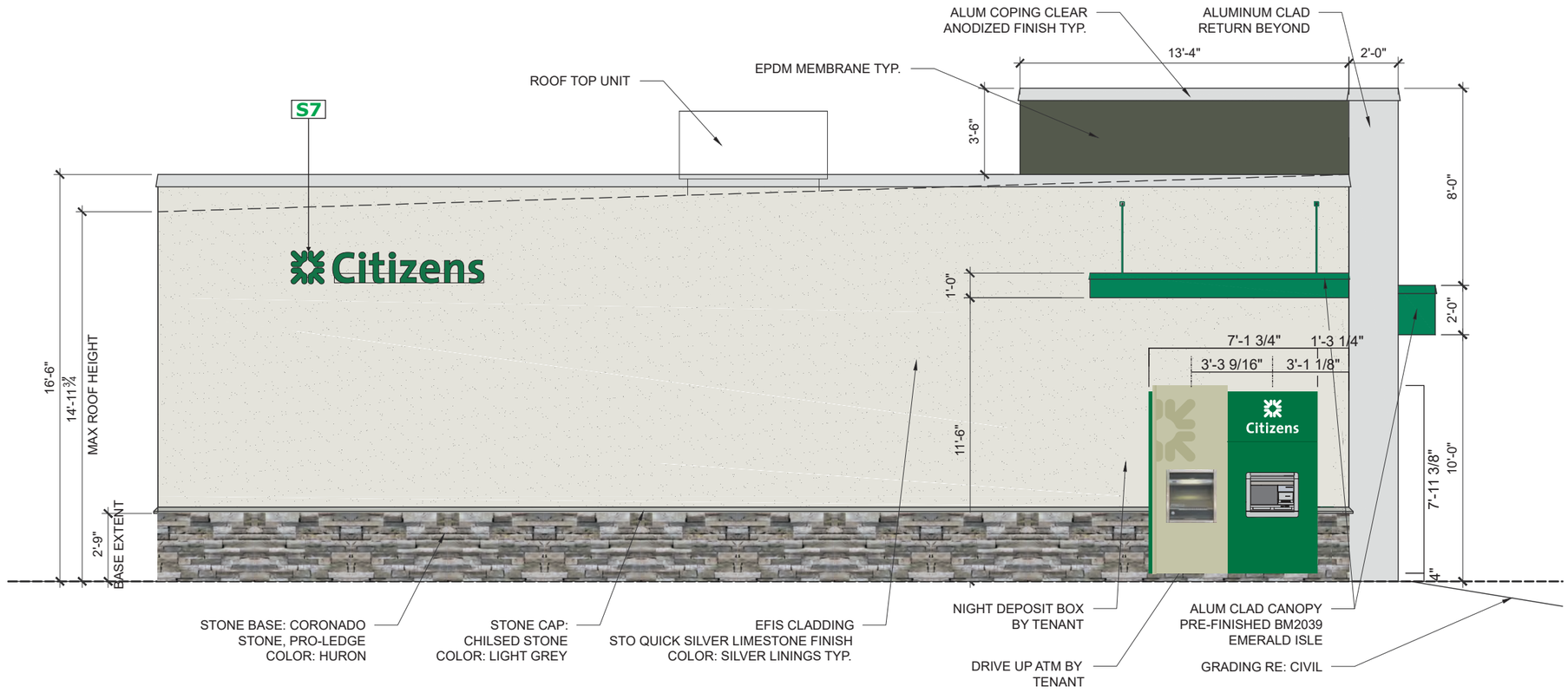
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S7 - ICLL-1-15-R - Channel letters, Green - illuminated, Horizontal on raceway 1’-4 1/8” OAH x 7’-9 3/4” OAW, 10.50 SF

Note: Electrical required 120v @ 3 amps required. Conduit run to sign, provided by GC.



PROPOSED LEFT SIDE ELEVATION (DRIVE-THRU)

SCALE: 3/16"-1'-0"

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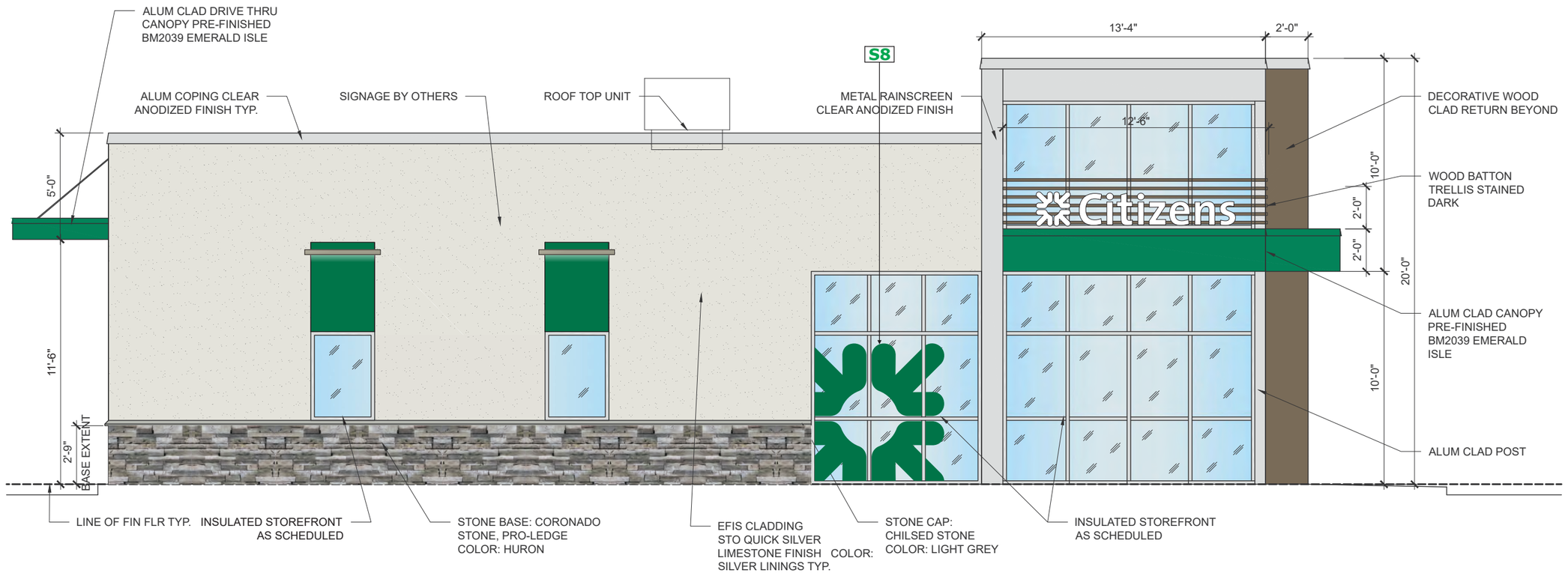
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S8 - Green window vinyl

Note: To be provided and installed by MZ



PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

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S11 - Reface existing double-faced Pylon Sign
Note: Reface only, Dimensions to be determined





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PRE-PERMIT SIGN INFO

Property ID: ARLINGTON -001

A.) Project Name: **Citizens Bank** DATE COMPLETED **1/11/21**
B.) Street Address: **1420 Massachusetts Avenue**
C.) Town / City / State / Zip: **Arlington, MA 02476**
D.) Contact for Permit/Zoning: **Jennifer Raitt**
E.) Contact Telephone: **781-316-3090**
F.) Jurisdiction: City/Town: **Town of Arlington** Address: **730 Mass Avenue Annex**
or, County of: City, ST Zip: **Arlington, MA 02476**

G.) Zoning Classification for property: **B4 Vehicular Oriented Business District.**
H.) Is there a Master Sign Plan? **No MSP was found during research, there may be an MSP in place here, we strongly suggest checking with the**
I.) Is a permit required? **Yes.**
J.) What documents are required to file for the permit? **Application: https://www.arlingtonma.gov/home/showpublisheddocument?id=1952**
K.) How long is the permit process? **3-5 weeks.**
are there special reviews involved? **Not indicated during research, however the town reserves the right to request additional review(s) based on**
overlay districts? **See above.**
city and county review required? **See above.**
design review board / ARB / DRB ? **See above.**
community association review required? **See above.**
L.) What are the fees for a sign permit? **https://www.arlingtonma.gov/departments/inspectional-services/applications-fees-forms/permit-fees**
M.) Is engineering needed for wall signs? **May be required based on the scope of work, subject to plan review.**
N.) Does engineering require a PE stamp? **See above.**
O.) Is landlord approval required? **Yes.**
P.) Legal Description Required for permit? **Yes.**
Q.) Plat/Site Plan required for permit? **Yes.**

ATTACHED SIGNS & WINDOW GRAPHICS

1.) Formula for calculating wall sign square footage (Max. Sq. Footage - Primary & **Wall signs: Maximum 40 sq. ft. per business.**
2.) Sq.Ft allowance for bldg. sides/rear:

The total sign area for signs on single-tenant or multi-tenant buildings may be placed on any building elevation, subject to the following standards:
(1) At least 1 sign must be placed above or associated with the building entry;
(2) The width of the sign shall be no greater than 60% of the width of the building element on which it is displayed;
(3) Signs shall be placed at least 12 inches or 20% of the width of the building element on which they are mounted, whichever is less, from the sides of the building element;
(4) Signs shall be placed at least 12 inches or 20% of the height of the building element on which they are mounted, whichever is less, from the top and bottom edge of the building element; and
(5) Signs shall be placed no higher than the lowest of the following:
a. 25 ft. above grade;
b. The bottom of the sill of the first level of windows above the first story; or
c. The cornice line of the building at the building line.

3.) How is the sign area calculated?

Signs on Background Panel: Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.
Signs with Individual Letters: Sign copy mounted as individual letters or graphics against a wall, fascia, mansard, or parapet of a building or surface of another structure, that has not been painted, textured or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the total sign.
Signs on Illuminated Surfaces: Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.
Irregular Shaped Signs: Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.
Two face signs: If the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces.

4.) Total # Wall Signs allowed per building elevation: **Wall signs: Maximum 1 per frontage.**
5.) What is the max letter/character height allowed? **Signs shall be placed no higher than the lowest of the following:**
6.) Does the ordinance restrict color, design or illumination? **Illumination: Non-illuminated, internally illuminated, or externally illuminated. See**
7.) Does window vinyl need to be permitted, if so how much is allowed? **Combined area of permanent and temporary window signs must not exceed**
8.) Is the entire graphic calculated or just the company logo and name? **Entire graphic area.**

FREESTANDING SIGNS

1.) Formula for calculating freestanding sign sq. footage (Max Sq Footage- Primary & Secondary signs):
Monument signs: Maximum 24 sq. ft. The name of a property is included in the area and height limits for freestanding signs.
2.) # F/S Signs allowed: **Monument signs: Maximum 1 per frontage.** Internal illumination allowed: **Monument signs: Non-illuminated or**
3.) Height Maximum: **Monument signs: Maximum 8 feet to the** Clearance from grade to sign: **Must be monument signs.**
4.) Set-back of sign from right-of-way or property line:
Monument signs: Minimum 5 feet setback from property line.
Signs may not be placed on property at any corner formed by intersecting streets, within the triangular area formed between the property lines and a diagonal line joining points on the property lines 25 feet from the point of their intersection, or in the case of rounded property line corners, the triangular area between the tangents to the curve at such corner and a diagonal line joining points on the tangents 25 feet from the point of their intersection.

DIRECTIONAL SIGNS

5.) Number Allowed: **Wall sign directional/driveway: Max 3 per lot.** Maximum Square Footage: **Wall sign directional/driveway: Max. 3 sq. ft. per**
6.) Illumination Allowed? **Wall sign directional/driveway: Non-illuminated** Maximum Height: **Wall sign directional/driveway: Mounting height-**
7.) Permit Required?: **Wall sign directional/driveway: Sign permit** Customer Logo Allowed: **Not stipulated by code, subject to plan review.**

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TEMPORARY BANNERS

1.)	What temporary sign types are allowed?	Allowed Sign Types: A-Frame or Upright Signs; Yard Sign Type I, II, and III; Wall Banners; and Window
2.)	What is the max sign size area?	Max. 24 sq. ft. per business; excludes the area of temporary wall banner signs and window signs.
3.)	How is the sign area calculated?	

Signs on Background Panel: Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.
Signs with Individual Letters: Sign copy mounted as individual letters or graphics against a wall, fascia, mansard, or parapet of a building or surface of another structure, that has not been painted, textured or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the total sign.
Signs on Illuminated Surfaces: Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.
Irregular Shaped Signs: Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.
Two face signs: If the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces.

4.)	Are logos factored into sign area?	Yes.
5.)	How many signs per elevation?	Number of Signs: Unlimited, except that the total sign area must not exceed 24 sq. ft. per business.
6.)	How long can signs be up?	A temporary sign permit for a wall banner is valid for 60 days beginning with the date of issuance.
7.)	Does the ordinance restrict color, design or illumination?	

A temporary sign permit is required for the display of temporary wall banner signs. Portable and temporary signs are not counted toward the total allowable sign area or number of permanent signs. Sign placement must not create a hazard for pedestrian or vehicular traffic and must allow for a 4-foot wide sidewalk to comply with the Americans with Disabilities Act.
Signs must be of sufficient weight and durability to withstand wind gusts, storms, etc., for the safety of pedestrians, bicyclists, and vehicles.
Prohibited Elements: Illumination, including flashing, blinking, or rotating lights; animation; reflective materials; and attachments, including balloons, ribbons, loudspeakers, etc.
Temporary wall banner: Signs must be mounted on a building wall or on T-posts or stakes installed 6 inches or less from the wall.

VARIANCE INFORMATION

1.)	Variance cost?	$400.00 and up.
2.)	Variance time frame?	2-5 months.
3.)	Variance document deadline?	One month prior to meeting.
4.)	Variance meeting dates?	https://www.arlingtonma.gov/town-governance/boards-and-committees/zoning-board-of-appeals/zba-
5.)	Variance documents required?	https://www.arlingtonma.gov/home/showpublisheddocument?id=24805
6.)	How many sets?	7 sets.
7.)	Likelihood of variance approval?	35%

DOCUMENTS REQUIRED FOR PERMITS

Scaled Plot plan	☑	☑ Building elevations	☑ Elevation Drawings	Electrical Permit	☑
Installation drawings	☑	☑ Legal description	☐ Sealed engineering drawings	Notice of Commencement	☐
Sign drawings	☑	☑ Photo of existing	☑ Property Manager's Approval		

Sign Code: https://www.arlingtonma.gov/home/showpublisheddocument?id=43413

Note: If the Building Inspector determines that a separate electrical or structural permit is required, the applicant shall be notified. The sign permit shall not be issued until all other required permits have been obtained.

Prohibited signs: 1. Bandit signs,
2. Cabinet signs, and
3. Electronic message centers or electronic displays.

Signs with the following display features are prohibited:
1. Animated features which rotate, move, or give the appearance of moving by mechanical, wind, or other means.
2. Lighting devices with intermittent, flashing, rotating, blinking or strobe light illumination, animation, motion picture, or laser or motion picture projection, or any lighting effect creating the illusion of motion, as well as laser or hologram lights.
3. Internally illuminated signs with a directly exposed light source, except for neon incorporated into the design of a permanent window sign.
4. Surfaces that reflect light by means of a glossy, polished, or mirrored surface.

Numerals and letters up to 2 square feet in area used to identify an address are not included in the determination of sign area.

All allowed permanent signs may be non-illuminated, illuminated by internal light fixtures, halo illuminated, or illuminated by external indirect illumination, unless otherwise specified. All temporary signs must be nonilluminated.
1. No sign shall be illuminated between 12:00 AM and 6:00 AM, except signs identifying emergency services such as police and ambulance stations or hospitals and signs on premises open for business during that time.
2. Internally Illuminated Signs:
a. Internally illuminated signs include signs constructed with pan channel letters, preferably without raceways, or internal/indirect halo illuminated channel letters on an unlit or otherwise indistinguishable background on a freestanding sign or building wall.
b. Single-color LED signs are considered internally illuminated signs.
3. Externally Illuminated Signs. Externally illuminated signs must be illuminated only with steady, stationary, fully-shielded light sources directed solely onto the sign without causing glare. The light source for externally illuminated signs must be arranged and shielded to substantially confine all direct light rays to the sign face and away from streets and adjacent properties.
4. Direct illumination is limited to marquee signs; see Section 6.2.5(C)(6) and is limited to the illumination of letters, numbers, symbols and accents on the marquee sign. Exposed lamps may only be animated to create an effect of patterned illusionary movement provided the alternate or sequential activation of the illuminated elements occurs on a cycle that exceeds two seconds.

Neon or single-color LED signs placed in a window count toward the aggregate area for all window signs and must not exceed 25 percent of the area of the window. Any individual neon or single-color LED sign must not exceed four square feet in area. Other uses of neon are prohibited.

Structure and Installation: (1) Any angle iron, bracing, guy wires, or similar features used to support a sign must not be visible to the extent technically feasible.
(2) Where electrical service is provided to freestanding signs or building mounted signs, the service must be placed underground and concealed. Electrical service to building mounted signs, including conduit, housings, and wire, must be concealed or, when necessary, painted to match the surface of the structure upon which they are mounted. A building permit shall be issued prior to installation of any new signs requiring electrical service.
(3) Raceway cabinets shall only be used in building mounted signs when access to the wall behind the sign is not feasible, shall not extend in width and height beyond the area of the sign, and shall match the color of the building to which it is attached. Where a raceway cabinet provides a contrast background to sign copy, the colored area is counted in the total allowable sign area allowed for the site or business. A raceway cabinet is not a cabinet sign.
(4) All permanent signs allowed by this Section must be constructed of durable materials capable of withstanding continuous exposure to the elements and the conditions of a built-up environment and must be permanently attached to the ground, a building or another structure by direct attachment to a rigid wall, frame, or structure.

Monument signs: Landscaping- A landscaped area consisting of shrubs, and/or perennial ground cover plants with a max. spacing of 3 ft. on center is required around the base of the signs. The landscape area must be a min. of 2 sq. ft. for each 1 sq. ft. of sign area.

AGI
2655 International Pkwy., Virginia Beach, VA 23452
PHONE: (757) 427-1900 - FAX: (757) 430-1297
www.AGI.net

BRANCH NUMBER: R/C NUMBER:
REQUIRES VARIANCE: ☐NO ☐YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS
PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

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352 Turnpike Road
Southborough, MA 01772
508.480.9900

March 8, 2021 *Via e-mail*

Arlington Redevelopment Board
720 Massachusetts Avenue
Arlington, MA 02476

Attn: Erin Zwirko, Assistant Director, Department of Planning and Community Development

RE: Special Permit Application Supplemental Submission
Citizens Bank Redevelopment
1420 Massachusetts Avenue
Arlington, MA 02476
Map #173, Block #2 & Lot #4.A

Dear Ms. Zwirko:

On behalf of 1420 Massachusetts Avenue, LLC c/o Bierbrier Development Inc., please find the below materials in response to the various items discussed during the February 22nd meeting with the Redevelopment Board. We look forward to further discussing these materials during the upcoming meeting on March 15th, 2021.

- Proposed Site Plan Documents prepared by Bohler dated January 21, 2021, revised March 5, 2021;
- Architectural Elevation prepared by BKA Architects dated March 8, 2021;
- Sign Submittal Package prepared by AGI dated January 12, 2021, last revised January 14, 2021;
- Proposed Floor Plan prepared by Citizens dated March 5, 2021;
- LEED Narrative & Checklist prepared by BKA Architects dated March 8, 2021.

Please note that the above materials have been updated as follows in response to the questions and comments discussed during the February 22, 2021 public hearing:

- Relocated the building front entrance to the Mass Ave side of the building. Also note that the ADA parking space and the pocket park have been adjusted to accommodate same.

- Additional architectural detail/element have been added to the left front façade of the building.

- We have consulted with the Tree Warden and have added two (2) shade trees behind the pocket park to help add visual interest to this end of the building. Also, two (2) ornamental trees have been added to the landscaped area in the rear.

- Three (3) parking spaces have been removed in the rear left corner and replaced with landscaping.

- A conceptual floorplan has been provided showing the location and detail of the long-term bicycle parking space within the building.

- An updated LEED checklist and narrative for the building has been provided. Solar will not be incorporated into the building design. Note that we are proposing to increase open space to approximately 35%, well above the 10% requirement.

- Updated sign package has been provided including the dimensions of the vinyl sign.

Please do not hesitate to contact us at 508-480-9900 should you have any questions or require any additional information regarding this submission.

Sincerely,

BOHLER

Nick Dewhurst

Randy Miron

CC: Tom Godfrey, Granite Development, LLC (via email)

PROPOSED SITE PLAN DOCUMENTS

FOR

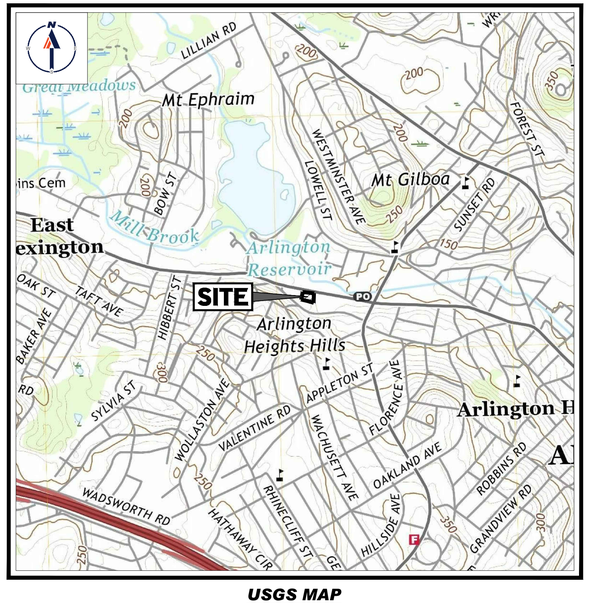
1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED

CITIZENS BANK REDEVELOPMENT

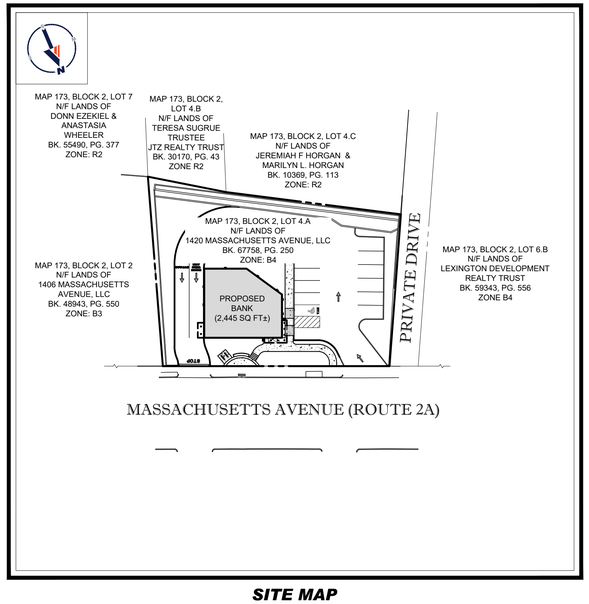
LOCATION OF SITE:

1420 MASSACHUSETTS AVENUE, TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS
MAP #173, BLOCK #2, LOT #4.A



USGS MAP

SCALE: 1" = 1,000'
SOURCE: LEXINGTON MASSACHUSETTS USGS QUADRANGLE



SITE MAP

SCALE: 1" = 50'

PREPARED BY

BOHLER

DRAWING SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-101
GENERAL NOTES SHEET	C-102
DEMOLITION PLAN	C-201
SITE LAYOUT PLAN	C-301
GRADING AND DRAINAGE PLAN	C-401
UTILITY PLAN	C-501
EROSION AND SEDIMENT CONTROL PLAN	C-601
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	C-602
LANDSCAPE PLAN	C-701
LANDSCAPE NOTES AND DETAILS	C-702
DETAIL SHEET	C-901
BOUNDARY & TOPOGRAPHIC SURVEY (BY OTHERS)	1 SHEET

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABILITY CONSULTING
PERMITTING SERVICES
TRANSPORTATION SERVICES

THE INFORMATION, DESIGN AND CONCEPTS OF THIS PLAN ARE PROPRIETARY AND SHALL NOT BE DISCLOSED OR USED FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN AUTHORIZATION FROM BOHLER. ONLY APPROVED AND SEALED PLANS SHALL BE UTILIZED FOR CONSTRUCTION PURPOSES.

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY
1	02/22/21	PER TOWN COMMENTS	NPD / RMM
2	03/05/21	PER TOWN COMMENTS	NPD / RMM

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THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A 1420 MASSACHUSETTS AVENUE TOWN OF ARLINGTON MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER F. DEMARCO
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

COVER SHEET

SHEET NUMBER:

C-101

REVISION 2 - 03/05/21

I:\BOHLER\ENG ART\SHARE\SMA-PROJECTS\W161132\DRAWINGS\PLAN SETS\REV2\W161132-CVL-2_----3-LAYOUT- C-101-COVR

GENERAL NOTES

CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS.

1. THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:
   - "BOUNDARY & TOPOGRAPHIC SURVEY", PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED 07/15/16, REVISED THRU 08/28/20.
   - "REPORT OF GEOTECHNICAL INVESTIGATION", PREPARED BY WHITESTONE ASSOCIATES, INC., DATED 12/28/20.

   PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT HE/SHE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE. THIS IS CONTRACTOR'S RESPONSIBILITY.
2. ALL ACCESSIBLE (A/K/A ADA) PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 et seq. AND 42 U.S.C. § 4151 et seq.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
4. THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
5. ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT.
6. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN THE PLANS AND THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORTS AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.
7. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.
8. ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE REDONE OR REPAIRED DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER, THEREAFTER, PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.
9. CONTRACTOR MUST REFER TO THE ARCHITECTURAL/BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.
10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE ENTIRE SITE PLAN AND THE LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLAN, WHERE APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SITE ENGINEER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST.
11. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR.
12. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH RELEVANT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES.
13. THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL INTEGRITY, UTILITIES, BUILDINGS AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.
14. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND MUST REPLACE ALL SIGNAL INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
15. ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.
16. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
17. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER'S SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD IS NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES, AT ANY TIME.
18. ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING, AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS' AND SUBCONSULTANTS' FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, DAMAGES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS, ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.
19. BOHLER ENGINEERING WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME HEREUNDER. BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION, IN WRITING, BY THE CONTRACTOR. BOHLER ENGINEERING WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
20. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE NAMED AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE IN NOTE 19 FOR JOB SITE SAFETY.
21. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH PARAGRAPH 19 HEREIN, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SAME.
22. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE.
23. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.
24. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS.
25. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, IN STRICT ACCORDANCE WITH THE APPROVED PLAN(S) AND DESIGN AND, FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
26. ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, UNLESS NOTED OTHERWISE.
27. ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES, AND ALL APPLICABLE OSHA REQUIREMENTS.
28. CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AVAIL TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.
29. CONTRACTOR IS RESPONSIBLE TO MAINTAIN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH EPA REQUIREMENTS FOR SITES WHERE ONE (1) ACRE OR MORE (UNLESS THE LOCAL JURISDICTION REQUIRES FEWER) IS DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE.
30. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER, THE USE OF THE WORDS CERTIFY OR CERTIFICATION CONSTITUTES AN EXPRESSION OF "PROFESSIONAL OPINION" REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERSIGNED PROFESSIONAL'S KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

GENERAL GRADING & UTILITY PLAN NOTES

1. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE INDEPENDENTLY CONFIRMED WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED, IN WRITING, TO THE ENGINEER. CONSTRUCTION MUST COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY BETWEEN THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE OR APPLICABLE CODES, REGULATIONS, LAWS, RULES, STATUTES AND/OR ORDINANCES, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR'S FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTOR'S FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITY TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, STATUTES, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SAME.
4. THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.
5. THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
6. THE CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES.
7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REQUIREMENTS WITH JURISDICTION AND/OR CONTROL OF THE SITE, AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES AND, FURTHER, IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-IN/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE A CONFLICT(S) EXISTS BETWEEN THESE SITE PLANS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.
8. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE FULL AND COMPLETE WORKING SERVICE. CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.
9. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.
10. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT AND FINAL AS-BUILT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND WITHIN 5 FEET OUTSIDE THE BUILDING PAD AREA HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE SHALL BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED BY THE GEOTECHNICAL ENGINEER'S REPORT. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.
11. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND MUST BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST, AT A MINIMUM, COMPLY WITH THE STATE DOT REQUIREMENTS AND SPECIFICATIONS AND CONSULTANT SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTION AND BACKFILL. FURTHER, CONTRACTOR IS FULLY RESPONSIBLE FOR EARTHWORK BALANCE.
12. THE CONTRACTOR MUST COMPLY, TO THE FULLEST EXTENT, WITH THE LATEST OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION. OSHA AND/OR TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.
13. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUTT JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.
14. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.
15. DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIF

MAP 173, BLOCK 2, LOT 7
N/F LANDS OF
DONN EZEKIEL & ANASTASIA WHEELER
BK. 55490, PG. 377
ZONE: R2

MAP 173, BLOCK 2, LOT 4.B
N/F LANDS OF
TERESA SUGRUE TRUSTEE
JTZ REALTY TRUST
BK. 30170, PG. 43
ZONE R2

MAP 173, BLOCK 2, LOT 4.C
N/F LANDS OF
JEREMIAH F HORGAN &
MARILYN L. HORGAN
BK. 10369, PG. 113
ZONE: R2

MAP 173, BLOCK 2, LOT 4.A
N/F LANDS OF
1420 MASSACHUSETTS AVENUE, LLC
BK. 67758, PG. 250
ZONE: B4

MAP 173, BLOCK 2, LOT 2
N/F LANDS OF
1406 MASSACHUSETTS AVENUE, LLC
BK. 48943, PG. 550
ZONE: B3

MAP 173, BLOCK 2, LOT 6.B
N/F LANDS OF
LEXINGTON DEVELOPMENT REALTY TRUST
BK. 59343, PG. 556
ZONE B4

N56°06'39"W 55.67'
N59°59'56"W
S18°13'24"W 132.79'
N27°02'22"E
S67°15'00"E 754.33'
N67°15'00"W 141.38'
158.34'
51.4'
78.4'
15.4'
19.7'
106.36'

CONCRETE WALL w/4' CLF
CONCRETE WALL
LSA
FENCE CHANGE
EXIST. TREE (TO REMAIN AND BE PROTECTED)
FENCE (TO REMAIN)
GRAVEL
8' HIGH CLF
4' HIGH CLF
ASPHALT PAVEMENT (TBR-TYP.)
SWL (TBR-TYP.)
CONC. CURB (TBR)
CONC. WALL (TO REMAIN)
APPROX. LIMIT OF WORK LINE (TYP.)
PAVEMENT ARROW (TBR)
EXIST. DIRECTIONAL SIGN (TO REMAIN AND BE PROTECTED)
EXIST. SITE LIGHT (TO REMAIN-TYP. OF 4)
EXIST. CONC. CURB (TO REMAIN)
EXIST. CATCH BASIN (TO REMAIN)
BLDG 0.2'
EXIST. TREE (TO REMAIN AND BE PROTECTED)
EXIST. CONC. WALL AND CHAIN LINK FENCE (TO REMAIN)
OVERHANG (TBR)
CONC. (TBR)
AC UNIT (TBR)
CONC. WALK (TBR)
ACCESSIBLE SIGN (TBR)
METAL RAILING (TBR)
WHITE STRIPING (TBR)
DEPOSIT BOX (TBR)
BRICK (TBR)
METAL BOX (TBR)
CANOPY (TBR)
SEWER MANHOLE AND PIPE (TBR)
BOLLARD (TBR-TYP.)
BOLLARD SIGN (TBR)
CUT AND CAP WATER SERVICE (TBR)
CONC. ISLAND (TBR)
1 STORY MASONRY BUILDING "SHERWIN WILLIAMS"
1 STORY BRICK BUILDING (TBR)
"CITIZEN'S BANK"
BUILDING HEIGHT = 17.6'±
BUILDING FOOT PRINT AREA = 1,840± SF
#1420
CONC. PAD (TBR)
VAULT (TBR)
EXIST. ELECTRIC SERVICE (TO REMAIN AND BE PROTECTED)
COLUMN (TBR-TYP.)
LIMIT OF SEWER SERVICE (TBR)
BRICK PAVERS (TBR)
GRANITE STEPS W/METAL RAILINGS (TBR)
LIMIT OF CONC. CURB (TBR)
GRANITE CURB (TBR)
EXIST. CONC. WALK (TO REMAIN)
CONCRETE WALK (TBR)
EXIST. SITE LIGHT (TO REMAIN-TYP. OF 4)
EXIST. MONUMENT SIGN (TO REMAIN AND BE PROTECTED)
SIGN (TO REMAIN)
PAVEMENT ARROW (TBR)
CONCRETE APPROACH
APPROX. LIMIT OF WORK LINE (TYP.)
PROP. SAWCUT LINE (TYP.)
CONCRETE APRON
DWP
EXIST. DRAINAGE LINE (TO REMAIN AND BE PROTECTED)
EXIST. WATER SERVICE PER TIE CARD PROVIDED BY DPW. SERVICE TO BE RE-USED IF FOUND TO BE SUITABLE OR REPLACED IF NEEDED FROM THE GATE VALVE TO THE BUILDING.
EXIST. HYDRANT (TO REMAIN AND BE PROTECTED)
EXIST. SEWER MANHOLE AND PIPE PER TIE CARD INFORMATION PROVIDED BY DPW. CONTRACTOR SHALL VERIFY IT'S LOCATION, ELEVATION, AND SUITABILITY FOR RE-USE PRIOR TO CONSTRUCTION AND COORDINATE WITH DPW AS NEEDED. IF NECESSARY, THE LINE MAY NEED TO BE REPLACED OR RE-LINED.
LIMIT OF CONC. CURB (TBR)
ASPHALT PAVEMENT (TBR-TYP.)
CONC. WALK (TBR)
OVERHANG (TBR)
CONC. CURB (TBR)
SEAM (TBR)
EXIST. CONC. CURB (TO REMAIN)
EXIST. SITE LIGHT (TO REMAIN AND BE PROTECTED)
EXIST. CATCH BASIN (TO REMAIN)
EXIST. DRAINAGE LINE (TO REMAIN AND BE PROTECTED)
EXIST. SITE LIGHT (TO REMAIN-TYP. OF 4)
SWL (TBR-TYP.)
LSA (TBR)
CONC. WALK (TBR)
CONC. PAD (TBR)
VAULT (TBR)
CONC. CURB (TBR)
LIMIT OF CONC. CURB (TBR)
ASPHALT PAVEMENT (TBR-TYP.)
PAVEMENT ARROW (TBR)
EXIST. CONC. CURB (TO REMAIN)
EOP
EOC
GRASS
CONCRETE WALK
ASPHALT PAVEMENT
4' HIGH CLF
CONCRETE WALL
EXIST. CONC. CURB (TO REMAIN)
SWL (TBR-TYP.)
EXIST. CONC. CURB (TO REMAIN)
EXIST. SITE LIGHT (TO REMAIN-TYP. OF 4)
EXIST. DRAINAGE LINE (TO REMAIN AND BE PROTECTED)
ASPHALT PAVEMENT
SIGN (TO REMAIN)
LIMIT OF CONC. CURB (TBR)
ASPHALT PAVEMENT (TBR-TYP.)
PAVEMENT ARROW (TBR)
EXIST. CONC. CURB (TO REMAIN)
EOP
CONCRETE APPROACH
292'± TO PAUL REVERE ROAD
EOC
3 STORY FRAME BUILDING
T16
T10
T6
GC
EOP
DC
WV
GV
HYD
CONCRETE WALK
GRASS
BLD ON LINE

PRIVATE DRIVE
(20' WIDE RIGHT OF WAY)
(OWNERS UNKNOWN)

MASSACHUSETTS AVENUE
(A.K.A. MASSACHUSETTS STATE ROUTE 2A)
(PUBLIC - VARIABLE WIDTH)
(ASPHALT ROADWAY)
TWO WAY TRAFFIC

REFER TO GENERAL NOTES SHEET FOR DEMOLITION NOTES

THIS PLAN TO BE UTILIZED FOR DEMOLITION/ REMOVAL PURPOSES ONLY

10 5 2.5 0 10
1"= 10'

\\BOHLERENG.NET\SHARE\MA-PROJECTS\161\132\DRAWING\PLAN SETS\REV2\W161132-CIVL-2---LAYOUT_C-201-DEMO

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

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PROJECT No.: W161132
DRAWN BY: CFD/NPD
CHECKED BY: RMM
DATE: 01/21/2021
CAD I.D.: W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

**1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.**

PROPOSED CITIZENS BANK REDEVELOPMENT

**MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS**

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
JOSHUA M. SWERLING
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

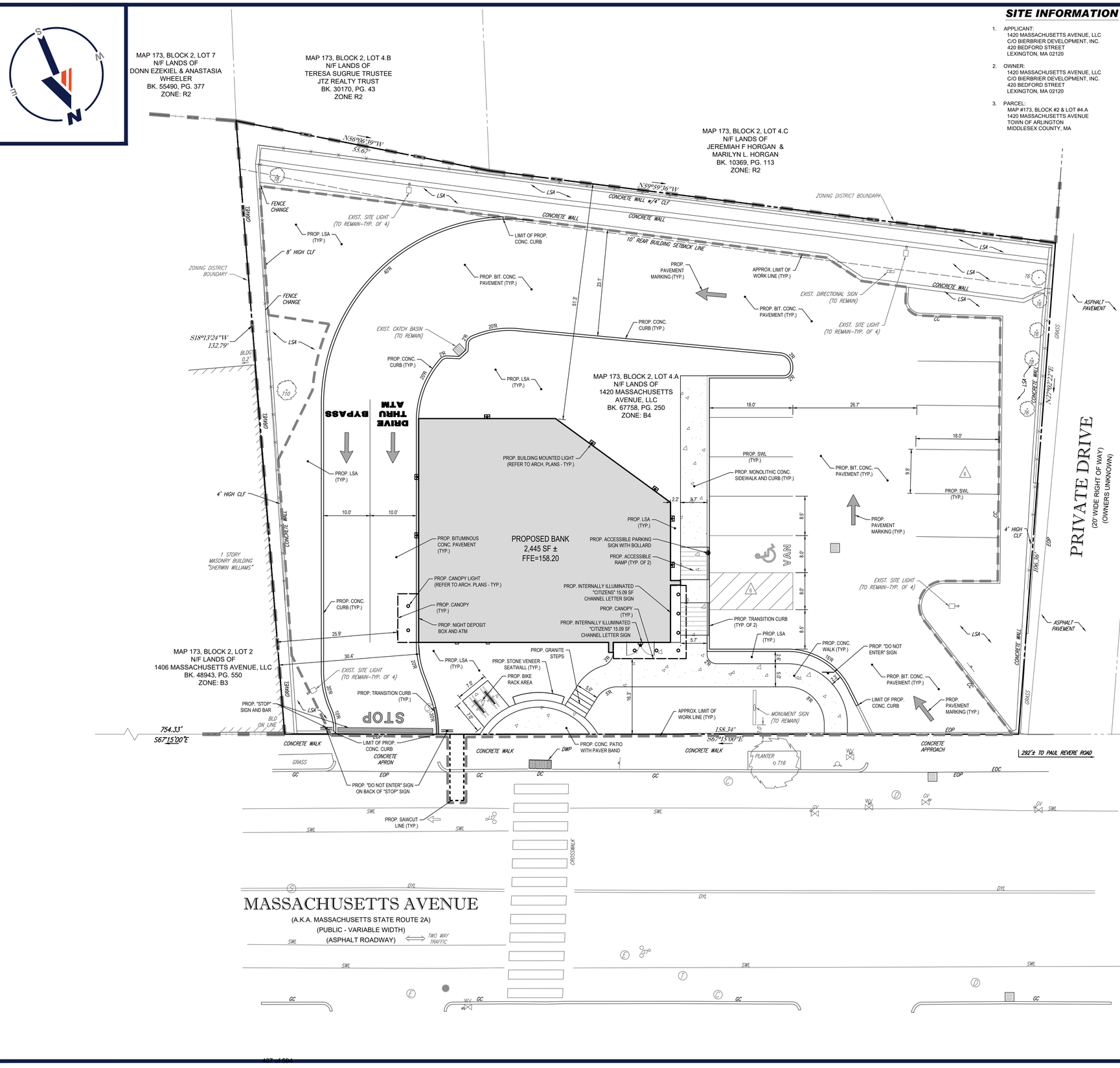
SHEET TITLE:

DEMOLITION PLAN

SHEET NUMBER:

C-201

REVISION 2 - 03/05/21



SITE INFORMATION

1. APPLICANT:
   1420 MASSACHUSETTS AVENUE, LLC
   C/O BIERBRIER DEVELOPMENT, INC.
   420 BEDFORD STREET
   LEXINGTON, MA 02120
2. OWNER:
   1420 MASSACHUSETTS AVENUE, LLC
   C/O BIERBRIER DEVELOPMENT, INC.
   420 BEDFORD STREET
   LEXINGTON, MA 02120
3. PARCEL:
   MAP #173, BLOCK #2 & LOT #4.A
   1420 MASSACHUSETTS AVENUE
   TOWN OF ARLINGTON
   MIDDLESEX COUNTY, MA

ZONING ANALYSIS TABLE

N/A - NOT APPLICABLE
N/S - NOT SPECIFIED
(V) - VARIANCE REQUESTED
(W) - WAIVER REQUESTED
(E) - EXIST. NON-CONFORMANCE

ZONING DISTRICT	VEHICULAR ORIENTED BUSINESS (B4)	
OVERLAY DISTRICT	NONE	
REQUIRED PERMIT	BANK OVER 2,000 SF WITH DRIVE-UP ATM PERMITTED BY SPECIAL PERMIT	

ZONE CRITERIA	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA	NONE	19,727 SF	NO CHANGE
MIN. LOT FRONTAGE	50 FT	158.3 FT	NO CHANGE
MAX. BLDG F.A.R.	1.0	0.18	0.12
MIN. FRONT SETBACK	0 FT	19.7 FT	16.3 FT
MIN. SIDE SETBACK	0 FT	10.6 FT	25.9 FT
MIN. REAR SETBACK	10 FT	51.4 FT	51.3 FT
MAX. BUILDING HEIGHT	35 FT / 3 STORIES	17.6 FT	20.0 FT
MIN. OPEN SPACE	10%	23.1%	34.9%
PARKING SPACES	8	15	12
ACCESS. PARKING SPACES	1	1	1
PARKING STALL CRITERIA STANDARD: 9 FT x 18 FT COMPACT: 8 FT x 16 FT	USE/CATEGORY: RETAIL OR OTHER SERVICE USE REQUIRED PARKING: 1 SPACE PER 300 SF SF CALCULATION: 2,400 / 300 = 8 SPACES REQUIRED		

BICYCLE PARKING REQUIREMENTS

RETAIL AND SERVICE USE REQUIRES 0.60 SPACES PER 1,000 SF OF GROSS FLOOR AREA.
- 2,400 SF x 0.6 / 1,000 = 1.4 SPACES REQUIRED
- 2 SPACES PROVIDED

THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY. REFER TO GENERAL NOTES SHEET FOR ADDITIONAL NOTES

10 5 2.5 0 10
1"= 10'

BOHLER

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABILITY SERVICES
PERMITTING SERVICES
TRANSPORTATION SERVICES

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PROJECT No.:	W161132
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DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
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PROPOSED
CITIZENS BANK REDEVELOPMENT

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TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
ROSS A. SWELLENGREBEL
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

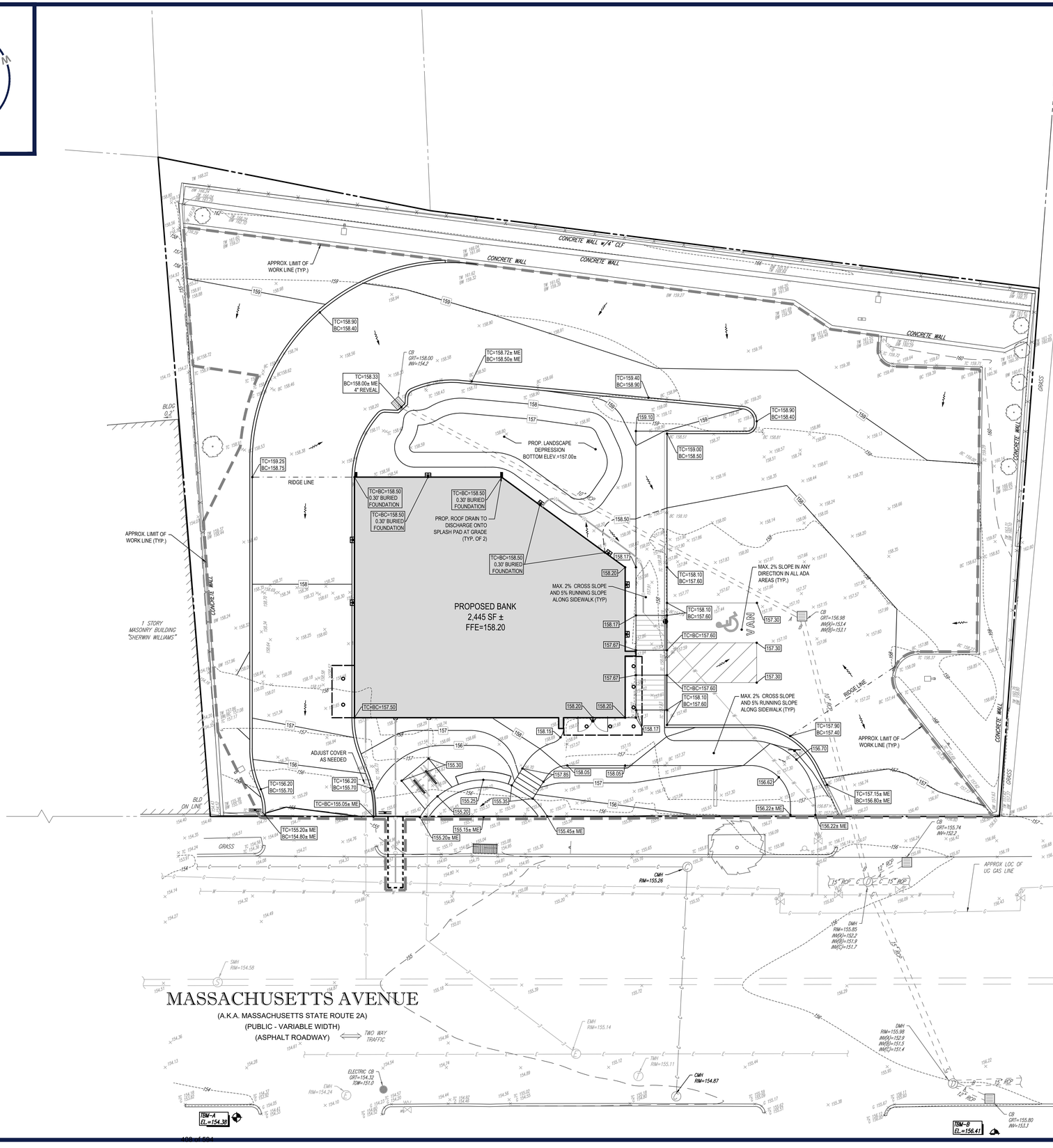
SITE LAYOUT PLAN

SHEET NUMBER:

C-301

REVISION 2 - 03/05/21

I:\BOHLER\ENG NET\SHARE\MA-PROJECTS\W161132\DRAWINGS\PLAN SETS\REV2\W161132-CIVIL-2----LAYOUT C-301-SITE



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10 5 2.5 0 10
1"= 10'

BOHLER

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

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PROJECT NO.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
JOSEPH M. SWIERINGA
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

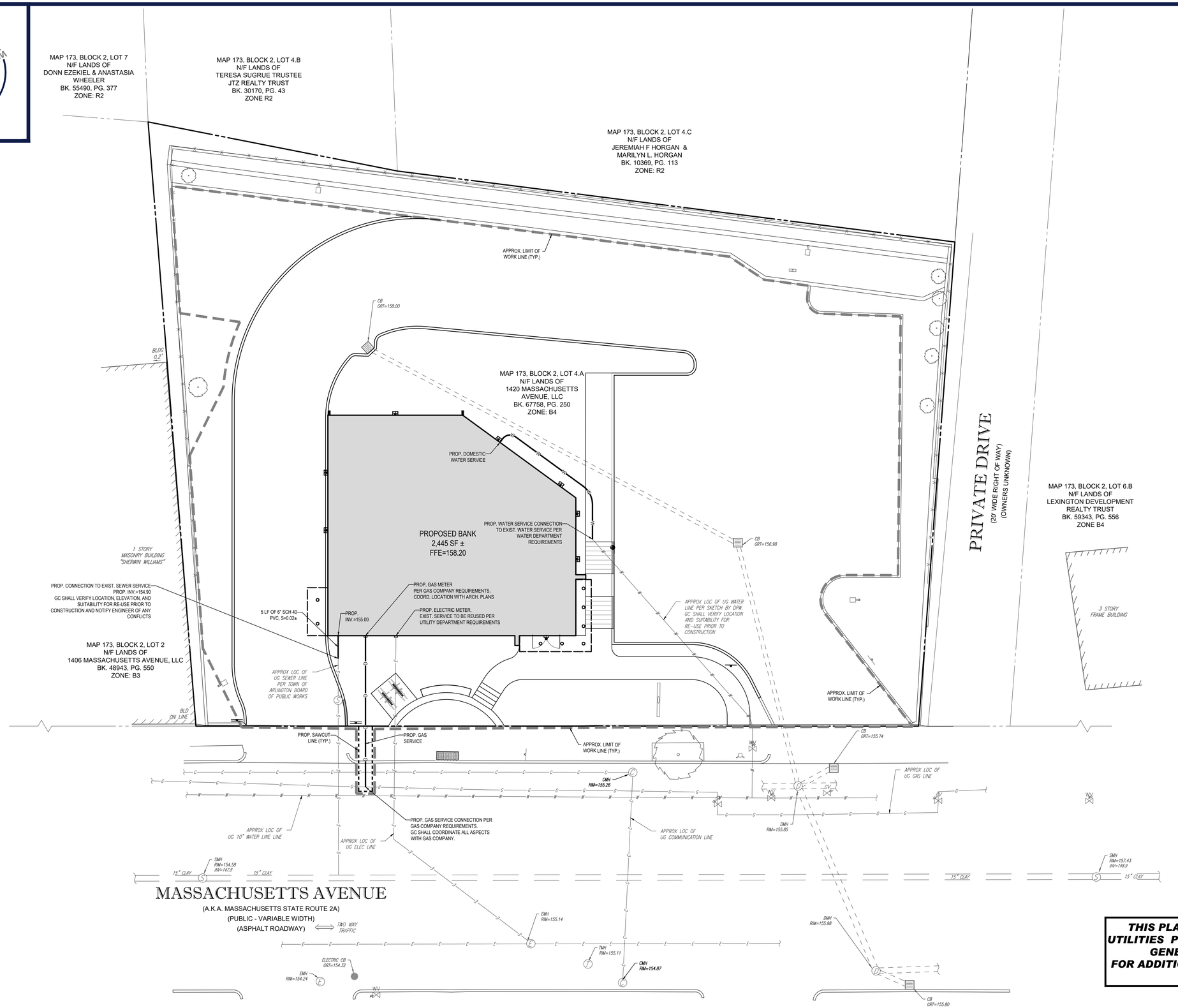
SHEET TITLE:

GRADING AND DRAINAGE PLAN

SHEET NUMBER:

C-401

REVISION 2 - 03/05/21



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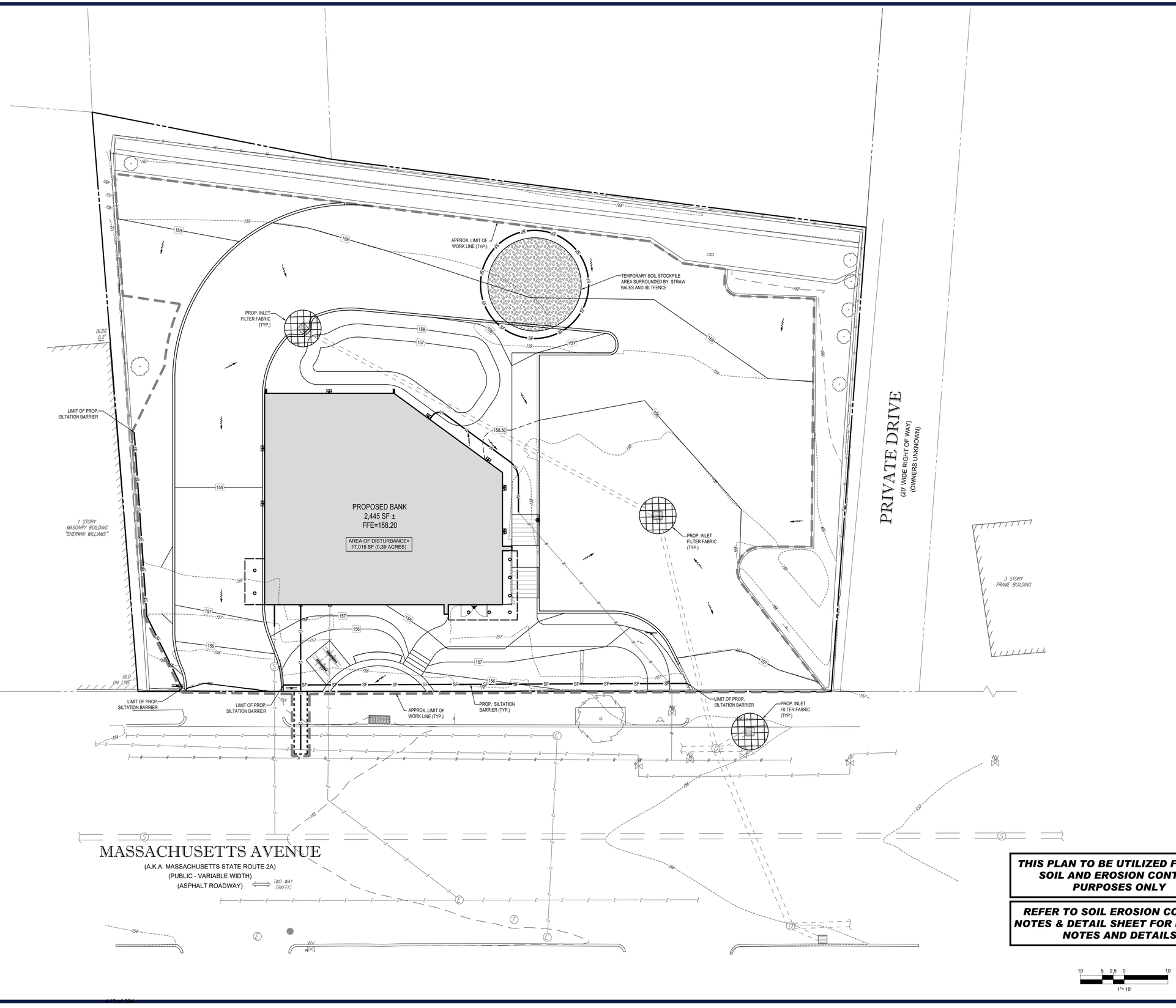
SHEET TITLE:

UTILITY PLAN

SHEET NUMBER:

C-501

REVISION 2 - 03/05/21



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REFER TO SOIL EROSION CONTROL NOTES & DETAIL SHEET FOR EROSION NOTES AND DETAILS

10 5 2.5 0 10
1"= 10'

1" = 10'

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SHEET TITLE:

SOIL EROSION & SEDIMENT CONTROL PLAN

SHEET NUMBER:

C-601

REVISION 2 - 03/05/21

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.
2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).
3. SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
4. INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILTATION BARRIER DETAILS FOR PROPER INSTALLATION. SILTATION BARRIER WILL REMAIN IN PLACE PER NOTE #5.
5. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF.
6. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2:1).
7. IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCH (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
8. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST TO PROTECT FROM SPRING RUNOFF PROBLEMS.
9. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS.
10. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND PREPARED FOR FINAL SEEDING AS FOLLOWS:

10.1. SIX INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.

10.2. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 LB PER ACRE OR 18.4 LB PER 1,000 SF USING 10-20-20 OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER1,000 SF).

10.3. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEEDED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUE-GRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS: SEEDING RATE IS 1.03 LBS PER 1,000 SF LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED.

10.4. STRAW MULCH AT THE RATE OF 70-90 LBS PER 1,000 SF. A HYDRO-APPLICATION OF WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON STRAW MULCH FOR WIND CONTROL.

11. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
12. WETLANDS WILL BE PROTECTED W/ STRAW, COMPOST, AND/OR SILT FENCE BARRIERS INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
13. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL HAVE AN EXPOSURE WINDOW OF NOT MORE THAN 7 DAYS.
14. ALL AREAS WITHIN 100 FEET OF A FLAGGED WETLAND OR STREAM SHALL FOLLOW APPROPRIATE EROSION CONTROL MEASURES PRIOR TO EACH STORM IF NOT BEING ACTIVELY WORKED,

MULCH

LOCATION	MULCH	RATE (1000 SF)
PROTECT AREA	STRAW	100 POUNDS
WINDY AREA	SHREDDED OR CHOPPED CORNSTALKS	185-275 POUNDS
	STRAW (ANCHORED)*	100 POUNDS
MODERATE TO HIGH VELOCITY AREAS OR STEEP SLOPES GREATER THAN 3:1	JUTE MESH OR EXCELSIOR MAT	AS REQUIRED
GREATER THAN 3:1	(REFER TO GEOTECHNICAL REPORT FOR FINAL DESIGN REQUIREMENT)	

* A HYDRO-APPLICATION OF WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON STRAW MULCH FOR WIND CONTROL.

MULCH ANCHORING
ANCHOR MULCH WITH PEG AND TWINE (1 SQ. YD/BLOCK); MULCH NETTING (AS PER MANUFACTURER); WOOD CELLULOSE FIBER (750 LBS/ACRE); CHEMICAL TACK (AS PER MANUFACTURER'S SPECIFICATIONS); USE OF A SERRATED STRAIGHT DISK. WETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

EROSION CONTROL NOTES DURING WINTER CONSTRUCTION

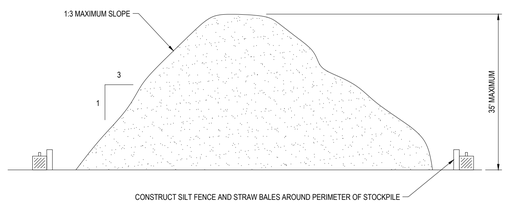
1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
4. CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 200 - 300% HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF STRAW OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
7. MULCHING REQUIREMENTS:

7.1. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.

7.2. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPE EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.

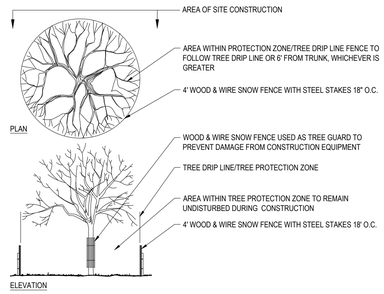
7.3. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.

8. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY DORMANT SEEDING OR MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
9. DURING THE WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
10. STOCKPILING OF MATERIALS (DIRT, WOOD, CONSTRUCTION MATERIALS, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT MAY OCCUR WITH ADJACENT PROPERTIES AND TO PROVIDE MAXIMUM PROTECTION AGAINST EROSION RUNOFF.
11. EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.



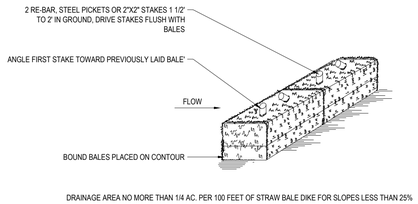
TEMPORARY STOCKPILE DETAIL

N.T.S.



TREE PROTECTION DURING CONSTRUCTION

N.T.S.



DRAINAGE AREA NO MORE THAN 1/4 AC. PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%

NOTES:
1. BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

2. EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.

3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.

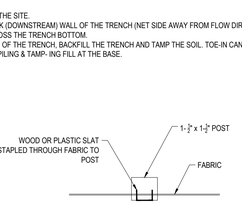
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.

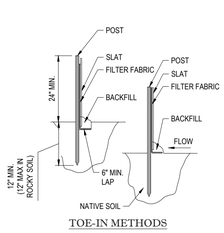
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

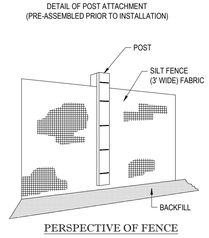
STRAW BALE DETAIL

N.T.S.

INSTALLATION:
1. EXCAVATE A 6"x 6" TRENCH ALONG THE LINE OF EROSION CONTROL OF THE SITE.
2. UNROLL SILTATION FENCE AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM FLOW DIRECTION).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS LAYING ACROSS THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF THE FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. TOE-IN CAN ALSO BE ACCOMPLISHED BY LAYING FABRIC FLAP ON UNDISTURBED GROUND AND PILING & TAMP- ING FILL AT THE BASE.

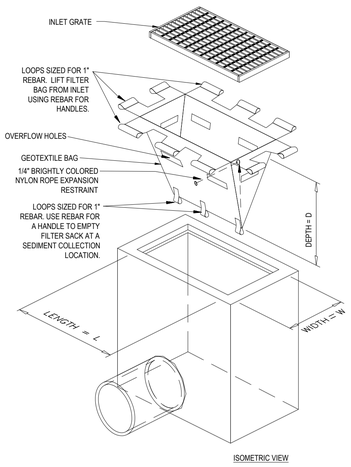


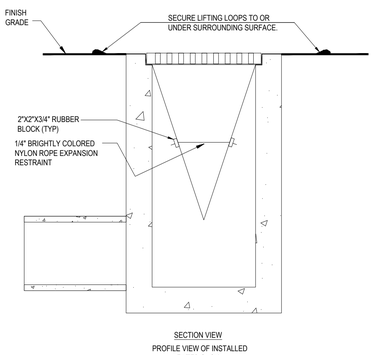




TYP. SILTATION FENCE DETAIL

N.T.S.





LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

DO NOT USE IN PAVED AREAS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

TO BE USED IN EXISTING RIGHT OF WAY

FILTER SACKS (GRATED INLETS)

N.T.S.

CONSTRUCTION SEQUENCE

THE FOLLOWING CONSTRUCTION SEQUENCE IS RECOMMENDED:

-INSTALLATION OF EROSION CONTROL BARRIER (STRAW BALES AND SILT FENCE) (AS SHOWN)

-INSTALLATION OF INLET PROTECTION IN STREET (AS SHOWN)

-DEMOLITION OF EXISTING SITE STRUCTURES (SEE DEMOLITION PLAN)

-DEMOLITION OF EXISTING SITE PAVEMENT AND AMENITIES (SEE DEMOLITION PLAN)

-CLEARING AND GRUBBING

-EARTHWORK AND EXCAVATION/FILLING AS NECESSARY

-CONSTRUCTION OF UTILITIES

-STABILIZE PERMANENT LAWN AREAS AND SLOPES WITH TEMPORARY SEEDING

-INSTALLATION OF INLET PROTECTION OF ON-SITE UTILITIES (AS SHOWN)

-CONSTRUCTION OF BUILDING

-CONSTRUCTION OF ALL CURBING AND LANDSCAPE ISLANDS AS INDICATED ON THE PLANS

-SPREAD TOPSOIL ON SLOPED AREAS AND SEED AND MULCH

-FINAL GRADING OF ALL SLOPED AREAS

-PLACE 6" TOPSOIL ON SLOPES AFTER FINAL GRADING COMPLETED. FERTILIZE, SEED, AND MULCH SEED MIXTURE TO BE INSTALLED AS REQUIRED.

-PAVE PARKING LOT

-LANDSCAPING PER LANDSCAPING PLAN

-REMOVE EROSION CONTROLS AS DISTURBED AREAS BECOME STABILIZED TO 70% STABILIZATION OR GREATER.

N.T.S.

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PROJECT No.: W161132
DRAWN BY: CFD/NPD
CHECKED BY: RMM
DATE: 01/21/2021
CAD I.D.: W161132-FTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY, MASSACHUSETTS

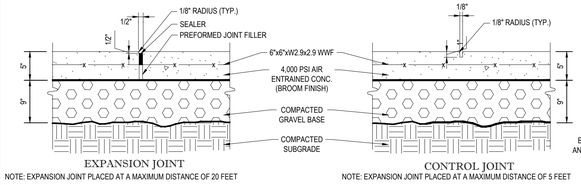
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352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
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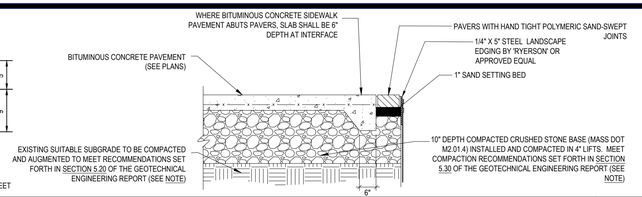
COMMONWEALTH OF MASSACHUSETTS
JOSHUA D. SWERLING
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

SHEET NUMBER:
C-602

REVISION 2 - 03/05/21





CONCRETE PATIO WITH PAVER SOLDIER COURSE

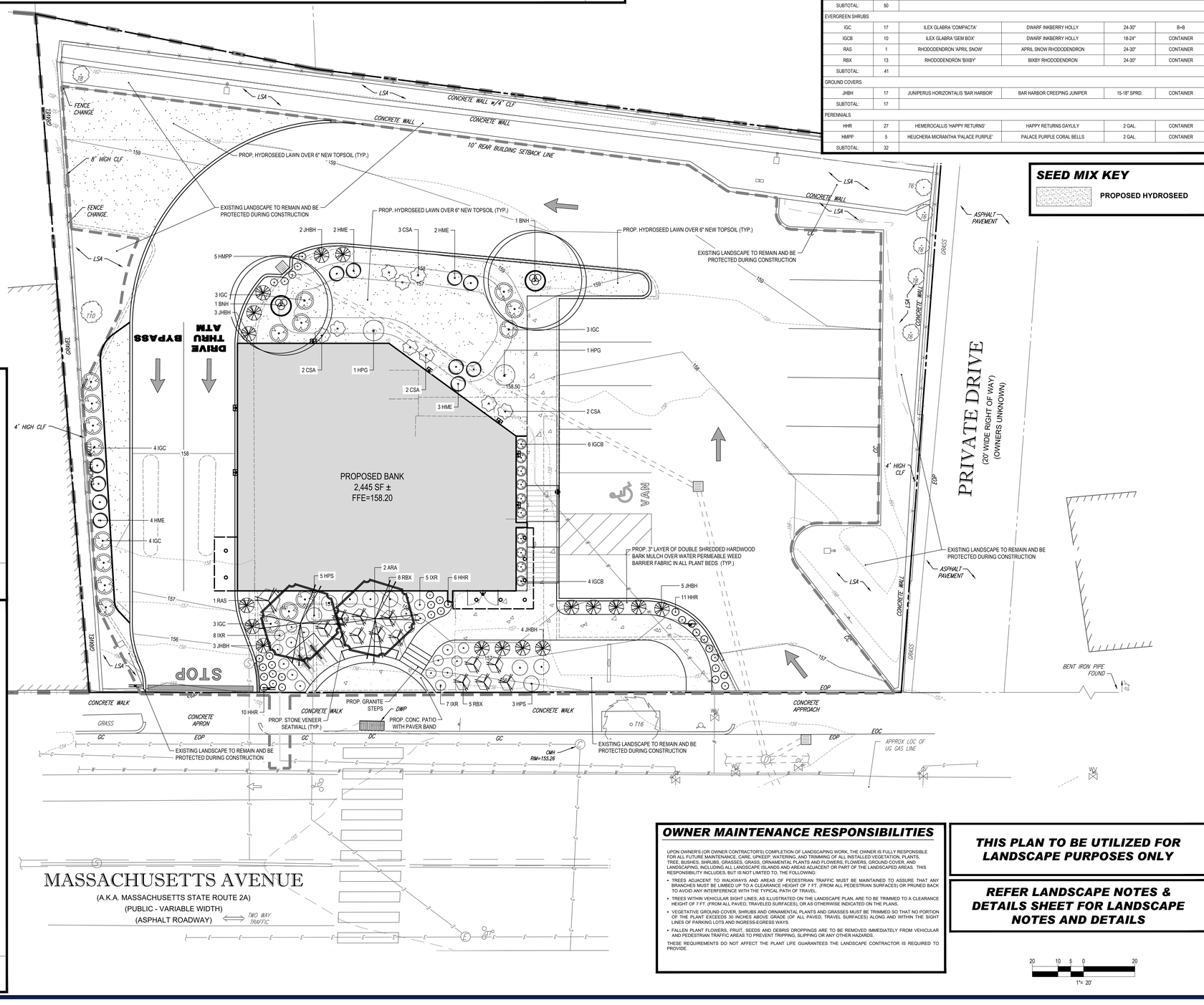
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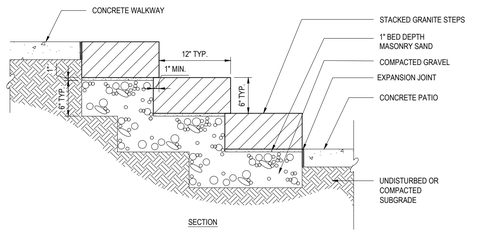
LANDSCAPE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONT.
SHADE TREES					
ARA	2	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG COLUMINAR RED MAPLE	2 1/2-3" CAL.	B+B
SUBTOTAL:	2				
ORNAMENTAL TREES					
BNH	2	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	10-12'	B+B
SUBTOTAL:	2				
DECIDUOUS SHRUBS					
CSA	9	CORNUS STOLONIFERA 'ARCTIC FIRE'	COMPACT RED TWIG DOGWOOD	18-24"	B+B
HME	11	HYDRANGEA MACROPHYLLA 'ENDLESS SUMMER'	ENDLESS SUMMER HYDRANGEA	18-24"	CONTAINER
HPG	2	HYDRANGEA PANICULATA 'GRANDIFLORA'	PEE GEE HYDRANGEA	24-30"	CONTAINER
HPS	8	HYPERICUM PATULUM 'SUNBURST'	SUNBURST ST. JOHNSWORT	18-24"	CONTAINER
IXR	20	ILEX X VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	18-24"	CONTAINER
SUBTOTAL:	50				
EVERGREEN SHRUBS					
IGC	17	ILEX GLABRA 'COMPACTA'	DWARF INKBERRY HOLLY	24-30"	B+B
IGCB	10	ILEX GLABRA 'GEM BOX'	DWARF INKBERRY HOLLY	18-24"	CONTAINER
RAS	1	RHODODENDRON 'APRIL SNOW'	APRIL SNOW RHODODENDRON	24-30"	CONTAINER
RBX	13	RHODODENDRON 'BIXBY'	BIXBY RHODODENDRON	24-30"	CONTAINER
SUBTOTAL:	41				
GROUND COVERS					
JHBH	17	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR CREEPING JUNIPER	15-18" SPRD.	CONTAINER
SUBTOTAL:	17				
PERENNIALS					
HHR	27	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	2 GAL.	CONTAINER
HMPP	5	HEUCHERA MICRANTHA 'PALACE PURPLE'	PALACE PURPLE CORAL BELLS	2 GAL.	CONTAINER
SUBTOTAL:	32				

SEED MIX KEY

PROPOSED HYDROSEED





GRANITE STEPS

N.T.S.

N.T.S.

OWNER MAINTENANCE RESPONSIBILITIES

UPON OWNER'S (OR OWNER CONTRACTOR'S) COMPLETION OF LANDSCAPING WORK, THE OWNER IS FULLY RESPONSIBLE FOR ALL FUTURE MAINTENANCE, CARE, UPKEEP, WATERING, AND TRIMMING OF ALL INSTALLED VEGETATION, PLANTS, TREE, BUSHES, SHRUBS, GRASSES, GRASS, ORNAMENTAL PLANTS AND FLOWERS, FLOWERS, GROUND COVER, AND LANDSCAPING, INCLUDING ALL LANDSCAPE ISLANDS AND AREAS ADJACENT OR PART OF THE LANDSCAPED AREAS. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- TREES ADJACENT TO WALKWAYS AND AREAS OF PEDESTRIAN TRAFFIC MUST BE MAINTAINED TO ASSURE THAT ANY BRANCHES MUST BE LIMBED UP TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PEDESTRIAN SURFACES) OR PRUNED BACK TO AVOID ANY INTERFERENCE WITH THE TYPICAL PATH OF TRAVEL.
- TREES WITHIN VEHICULAR SIGHT LINES, AS ILLUSTRATED ON THE LANDSCAPE PLAN, ARE TO BE TRIMMED TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PAVED, TRAVELED SURFACES), OR AS OTHERWISE INDICATED ON THE PLANS.
- VEGETATIVE GROUND COVER, SHRUBS AND ORNAMENTAL PLANTS AND GRASSES MUST BE TRIMMED SO THAT NO PORTION OF THE PLANT EXCEEDS 30 INCHES ABOVE GRADE (OF ALL PAVED, TRAVEL SURFACES) ALONG AND WITHIN THE SIGHT LINES OF PARKING LOTS AND INGRESS-EGRESS WAYS.
- FALLEN PLANT FLOWERS, FRUIT, SEEDS AND DEBRIS DROPPINGS ARE TO BE REMOVED IMMEDIATELY FROM VEHICULAR AND PEDESTRIAN TRAFFIC AREAS TO PREVENT TRIPPING, SLIPPING OR ANY OTHER HAZARDS.

THESE REQUIREMENTS DO NOT AFFECT THE PLANT LIFE GUARANTEES THE LANDSCAPE CONTRACTOR IS REQUIRED TO PROVIDE.

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

REFER LANDSCAPE NOTES & DETAILS SHEET FOR LANDSCAPE NOTES AND DETAILS

20 10 5 0 20

1"= 20'

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
LAND PLANNING
PERMITTING SERVICES
TRANSPORTATION SERVICES

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REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY
1	02/22/21	PER TOWN COMMENTS	NPD / RMM
2	03/05/21	PER TOWN COMMENTS	NPD / RMM

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BOHLER
352 TURNPIKE ROAD
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SHEET TITLE:

LANDSCAPE PLAN

SHEET NUMBER:

C-701

REVISION 2 - 03/05/21

LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK:

1.1. THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS

2.1. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.

2.2. TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.

2.3. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM 6" THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED ON THE LANDSCAPE PLAN

2.3.1. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.

2.3.2. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.

2.4. MULCH - ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN AND/OR LANDSCAPE PLAN NOTES /DETAILS.

2.5. FERTILIZER

2.5.1. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.

2.5.2. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.

2.6. PLANT MATERIAL

2.6.1. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY THE AMERICAN ASSOCIATION OF NURSERYMEN).

2.6.2. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.

2.6.3. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.

2.6.4. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1½", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.

2.6.5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH: WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.

2.6.6. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.

2.6.7. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.

2.6.8. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES

3.1. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.

3.2. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS

4.1. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.

4.2. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS & TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.

4.3. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION

5.1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.

5.2. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY 'VISI-FENCE', OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.

5.3. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

5.4. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS

6.1. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.

6.2. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.

6.3. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.

6.3.1. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.

6.3.2. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.

6.3.3. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING

7.1. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.

7.2. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±).

7.3. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.

7.4. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING

8.1. CONTRACTOR SHALL PROVIDE A 6" THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.

8.2. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.

8.3. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.

8.4. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BID PURPOSES ONLY [SEE SPECIFICATION 6.A.]):

8.4.1. 20 POUNDS 'GRO-POWER' OR APPROVED SOIL CONDITIONER/FERTILIZER

8.4.2. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP OR APPROVED NITROGEN FERTILIZER

8.5. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING

9.1. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.

9.2. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

9.3. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.

9.4. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.

9.5. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.

9.6. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:

9.6.1. PLANTS: MARCH 15 TO DECEMBER 15

9.6.2. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1

9.6.3. PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.

9.7. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM	PLATANUS X ACERIFOLIA
BETULA VARIETIES	POPULUS VARIETIES
CARPINUS VARIETIES	PRUNUS VARIETIES
CRATAEGUS VARIETIES	PYRUS VARIETIES
KOELREUTERIA	QUERCUS VARIETIES
LIQUIDAMBAR STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES

9.8. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:

9.8.1. 1 PART PEAT MOSS

9.8.2. 1 PART COMPOSTED COW MANURE BY VOLUME

9.8.3. 3 PARTS TOPSOIL BY VOLUME

9.8.4. 21 GRAMS "AGRIFORM" PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:

9.8.4.1. 2 TABLETS PER 1 GALLON PLANT

9.8.4.2. 3 TABLETS PER 5 GALLON PLANT

9.8.4.3. 4 TABLETS PER 15 GALLON PLANT

9.8.4.4. LARGER PLANTS: 2 TABLETS PER ½" CALIPER OF TRUNK

9.9. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.

9.10. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.

9.11. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.

9.12. GROUND COVER AREAS SHALL RECEIVE A ¼" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.

9.13. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.

9.14. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.

9.15. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)

10.1. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.

10.2. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.

10.3. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.

10.4. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.

10.5. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.

10.6. F TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

11. WATERING

11.1. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.

11.2. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.

11.3. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

12. GUARANTEE

12.1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF 1 YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

12.2. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.

12.3. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.

12.4. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

13. CLEANUP

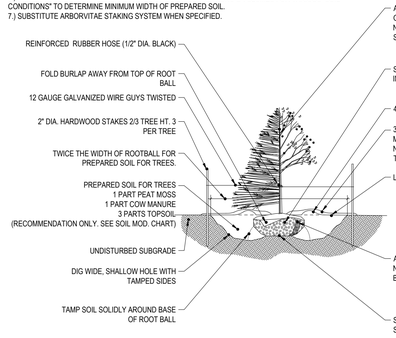
13.1. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.

13.2. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

14. MAINTENANCE (ALTERNATIVE BID):

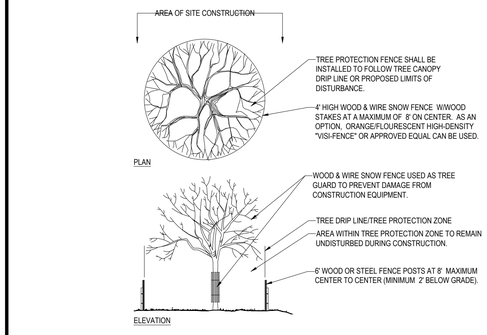
14.1. A 90 DAY MAINTENANCE PERIOD SHALL COMMENCE AT THE END OF ALL LANDSCAPE INSTALLATION OPERATIONS. THE 90 DAY MAINTENANCE PERIOD ENSURES TO THE OWNER/OPERATOR THAT THE NEWLY INSTALLED LANDSCAPING HAS BEEN MAINTAINED AS SPECIFIED ON THE APPROVED LANDSCAPE PLAN. ONCE THE INITIAL 90 DAY MAINTENANCE PERIOD HAS EXPIRED, THE OWNER/OPERATOR MAY REQUEST THAT BIDDERS SUBMIT AN ALTERNATE MAINTENANCE BID FOR A MONTHLY MAINTENANCE CONTRACT. THE ALTERNATE MAINTENANCE CONTRACT WILL ENCOMPASS ANY WORK THAT IS CONSIDERED APPROPRIATE TO ENSURE THAT PLANT AND LAWN AREAS ARE HEALTHY AND MANICURED TO THE APPROVAL OF THE OWNER/OPERATOR.

NOTES:
1.) NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2.) REMOVE ALL NON-BIODEGRADABLE MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP BACK 1/3 FROM ROOT BALL.
3.) PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4.) THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH
AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5.) THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS
NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING SOIL INTO THE SUBSOIL.
6.) REFER TO THE CHART "GENERAL RANGE OF SOIL MODIFICATIONS & VOLUMES FOR VARIOUS SOIL CONDITIONS" TO DETERMINE MINIMUM WIDTH OF PREPARED SOIL.
7.) SUBSTITUTE ARBORVITAE STAKING SYSTEM WHEN SPECIFIED.



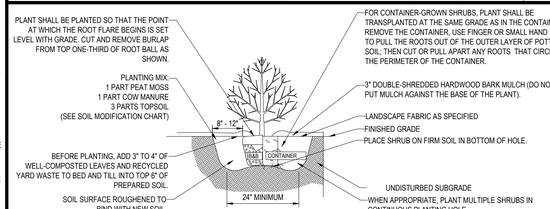
TREE PLANTING DETAIL

N.T.S.



TREE PROTECTION DURING SITE CONSTRUCTION

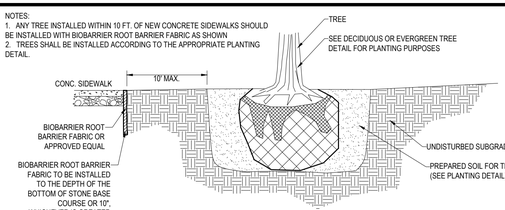
N.T.S.



SHRUB PLANTING DETAIL

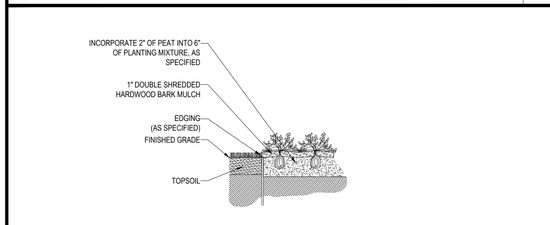
N.T.S.

NOTES:
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN
2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.



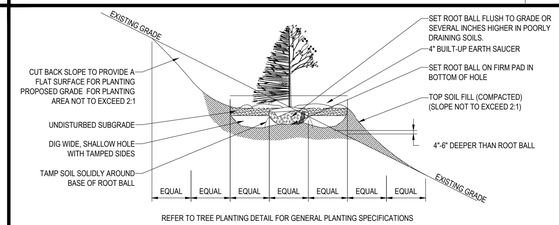
BIOBARRIER ROOT BARRIER DETAIL

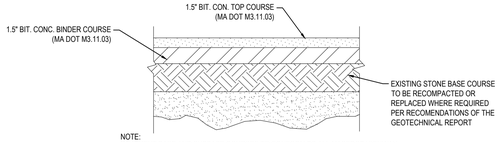
N.T.S.



GROUNDCOVER PLANTING

N.T.S.

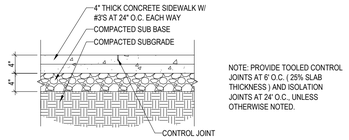

EXISTING GRADE
CUT BACK SLOPE TO PROVIDE A FLAT SURFACE FOR PLANTING PROPOSED GRADE FOR PLANTING AREA NOT TO EXCEED 2:1
UNDISTURBED SUBGRADE
DIG WIDE, SHALLOW HOLE WITH TAMPED SIDES
TAMP SOIL SOLIDLY AROUND BASE OF ROOT BALL
SET ROOT BALL FLUSH TO GRADE OR SEVERAL INCHES HIGHER IN POORLY DRAINING SOILS.
4" BUILT-UP EARTH SAUCER
SET ROOT BALL ON FIRM PAD IN BOTTOM OF HOLE
TOP SOIL FILL (COMPACTED) (SLOPE NOT TO EXCEED 2:1)
4"-6" DEEPER THAN ROOT BALL
EQUAL EQUAL EQUAL EQUAL



NOTE:
PAVEMENT BASE AND SUBBASE COURSES TO CONFORM TO ALL MASSDOT HIGHWAY DIVISION SPECIFICATIONS. GC TO REFER TO GEOTECHNICAL REPORT PREPARED BY WHITESTONE ASSOCIATES, INC., DATED 12/28/20 FOR PAVEMENT SPECIFICATIONS.

TYPICAL PAVEMENT SECTION

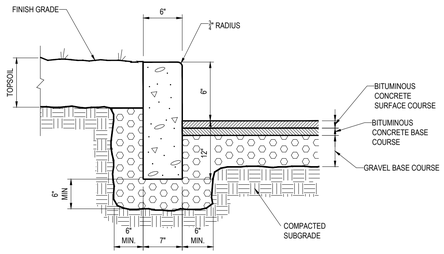
N.T.S.



NOTE: PROVIDE TOOLED CONTROL JOINTS AT 6' O.C. (25% SLAB THICKNESS) AND ISOLATION JOINTS AT 24' O.C., UNLESS OTHERWISE NOTED.

TYPICAL CONCRETE SIDEWALK SECTION

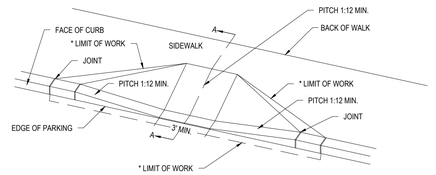
N.T.S.



NOTE:
1. CURB SHALL CONSIST OF 4,000 PSI AIR ENTRAINED CONCRETE. EXPOSED EDGES TO HAVE RUBBED FINISH AND SURFACE SHALL BE TREATED WITH A CONCRETE PENETRANT/SEALER.
2. THE ENDS OF CURB SECTIONS SHALL BE CHAMFERED 1/4 INCH.
3. THE CORNERS OF CURB SECTIONS SHALL MATCH THE ADJACENT CURB IN SIZE, COLOR AND FINISH.
4. CURBS, CURB CORNERS OR EDGING SHALL BE FITTED TOGETHER AS CLOSELY AS POSSIBLE.
5. EXPANSION JOINTS SHALL BE INSTALLED AT A MAXIMUM OF TWENTY FEET (20') ON CENTER USING PREFORMED EXPANSION JOINT FILLER HAVING A THICKNESS OF 1/2 INCH.

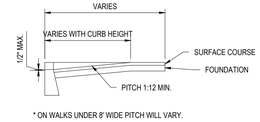
PRECAST CONCRETE CURB

N.T.S.



* REMOVE AND SAWCUT EXISTING PAVEMENT ALONG LINE INDICATED AS LIMIT OF WORK. CUT LINE TO INTERSECT CURB AT JOINT.

* LIMIT OF DISTURBANCE TO EXISTING ASPHALT ROADWAY- MAX. 6" STRIP ALONG EDGE OF ROADWAY

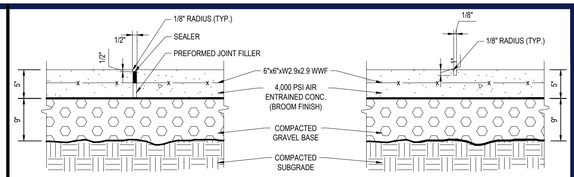


* ON WALKS UNDER 8' WIDE PITCH WILL VARY.

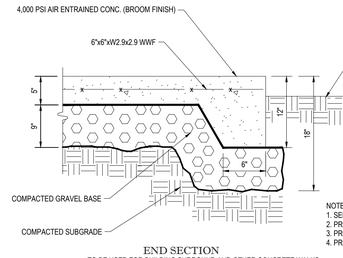
SECTION A-A

WHEELCHAIR RAMP

N.T.S.



EXPANSION JOINT CONTROL JOINT

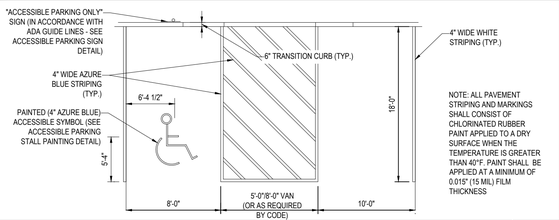


NOTES:
1. SEE SITE PLAN FOR WIDE AND GRADES
2. PROVIDE MINIMUM 1/8"/FT. CROSS-SLOPE
3. PROVIDE CONTROL JOINTS 5'-0" O.C. MIN.
4. PROVIDE EXPANSION JOINTS 20'- 0" O.C. MIN.

END SECTION
TO BE USED FOR BUILDING SURROUND AND OTHER CONCRETE WALKS. USE CHAIRS TO SUPPORT REINFORCING STEEL DURING POUR.

MONOLITHIC CONCRETE SIDEWALK AND CURB

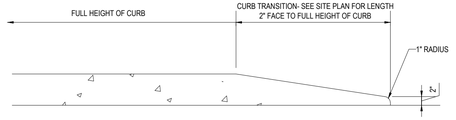
N.T.S.



NOTE: ALL PAVEMENT STRIPING AND MARKINGS SHALL CONSIST OF CHLORINATED RUBBER PAINT APPLIED TO A DRY SURFACE WHEN THE TEMPERATURE IS GREATER THAN 40°F. PAINT SHALL BE APPLIED AT A MINIMUM OF 0.015" (15 MIL) FILM THICKNESS

ACCESSIBLE STALL MARKINGS & PARKING LOT STRIPING

N.T.S.



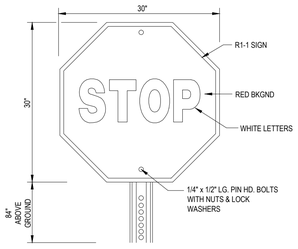
TRANSITION CURB

N.T.S.



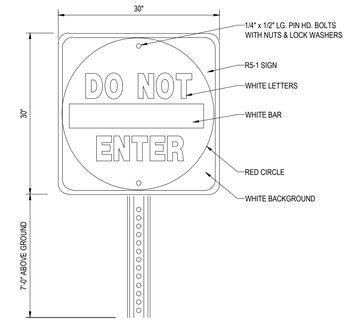
ACCESSIBLE PARKING SIGN

N.T.S.



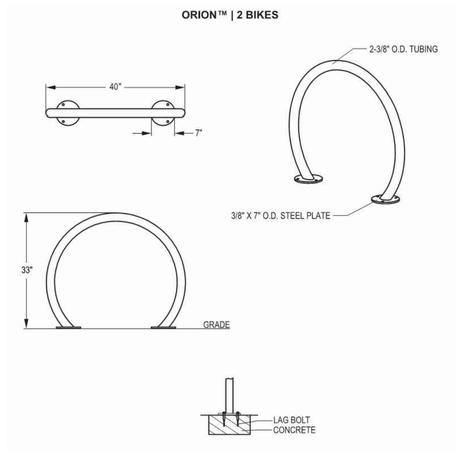
'STOP' SIGN

N.T.S.



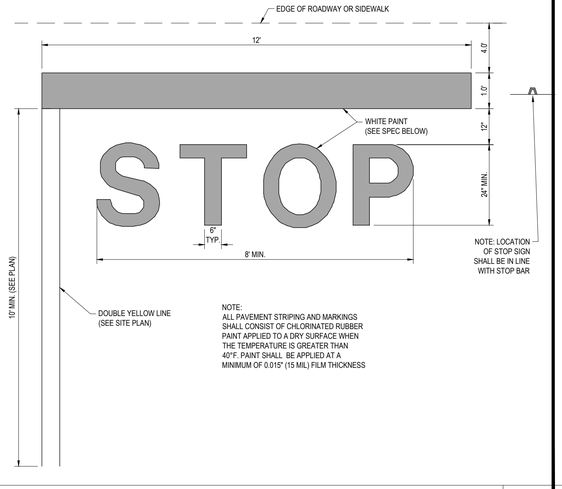
"DO NOT ENTER" SIGN

N.T.S.



BIKE RACK

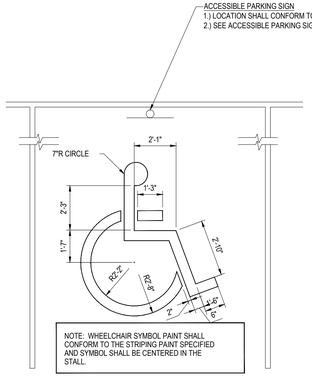
N.T.S.



NOTE:
ALL PAVEMENT STRIPING AND MARKINGS SHALL CONSIST OF CHLORINATED RUBBER PAINT APPLIED TO A DRY SURFACE WHEN THE TEMPERATURE IS GREATER THAN 40°F. PAINT SHALL BE APPLIED AT A MINIMUM OF 0.015" (15 MIL) FILM THICKNESS

'STOP' BAR

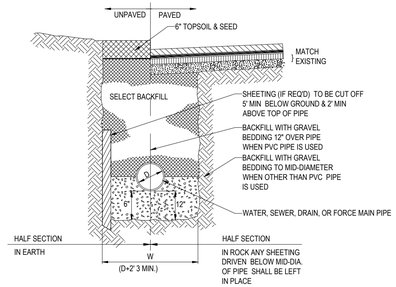
N.T.S.



NOTE: WHEELCHAIR SYMBOL PAINT SHALL CONFORM TO THE STRIPING PAINT SPECIFIED AND SYMBOL SHALL BE CENTERED IN THE STALL.

ACCESSIBLE PARKING STALL PAINTING

N.T.S.



TYPICAL UTILITY TRENCH

N.T.S.

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABILITY CONSULTING
PERMITTING SERVICES
TRANSPORTATION SERVICES

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BOHLER

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY
1	02/22/21	PER TOWN COMMENTS	NPD / RMM
2	03/05/21	PER TOWN COMMENTS	NPD / RMM

Know what's below. Call before you dig.
ALWAYS CALL 811
It's fast. It's free. It's the law.

PERMIT SET

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.:	W161132
DRAWN BY:	CFD/NPD
CHECKED BY:	RMM
DATE:	01/21/2021
CAD I.D.:	W161132-TTB-0_24X36

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR

1420 MASSACHUSETTS AVENUE, LLC
C/O BIERBRIER DEVELOPMENT, INC.

PROPOSED
CITIZENS BANK REDEVELOPMENT

MAP #173, BLOCK #2, LOT #4.A
1420 MASSACHUSETTS AVENUE
TOWN OF ARLINGTON
MIDDLESEX COUNTY,
MASSACHUSETTS

BOHLER
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

COMMONWEALTH OF MASSACHUSETTS
JOSEPH M. SILVESTRO
CIVIL
No. 41697
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:

DETAIL SHEET

SHEET NUMBER:

C-901

REVISION 2 - 03/05/21

I:\BOHLER\ENGINEERING\NETSHARE\SMA-PROJECTS\W161132\DRAWINGS\PLAN SETS\REV2\W161132-CIVL-3----LAYOUT C-901.DETL

LEGEND

124 / 125	EXISTING CONTOUR
× 123.45	EXISTING SPOT ELEVATION
× TC 123.45	EXISTING TOP OF CURB ELEVATION
× G 122.95	EXISTING GUTTER ELEVATION
× TW 123.45	EXISTING TOP OF WALL ELEVATION
× BW 122.95	EXISTING BOTTOM OF WALL ELEVATION
× FF 123.45	EXISTING FINISHED FLOOR ELEVATION
	HYDRANT
WV	WATER VALVE
GV	GAS VALVE
E	APPROX. LOC. UNDERGROUND ELECTRIC LINE
C	APPROX. LOC. UNDERGROUND CABLE LINE
W	APPROX. LOC. UNDERGROUND WATER LINE
G	APPROX. LOC. UNDERGROUND GAS LINE
	AREA LIGHT
V	VACUUM
	SIGN
	BOLLARD
	PAINTED ARROWS
DMH	DRAINAGE/STORM MANHOLE
EMH	ELECTRIC MANHOLE
SMH	SANITARY/SEWER MANHOLE
TMH	TELEPHONE MANHOLE
CB	CATCH BASIN OR INLET
	TREE & TRUNK SIZE
10	PARKING SPACE COUNT
	DEPRESSED CURB
DWP	DETECTABLE WARNING PAD
SWL	SOLID WHITE LINE
DYL	DOUBLE YELLOW LINE
HT	HEIGHT
BLDG	BUILDING
BFPA	BUILDING FOOTPRINT AREA
INV	INVERT ELEVATION
GRT	GRATE ELEVATION
TOW	TOP OF WATER
[123.4']	BUILDING DIMENSION
GC	GRANITE CURB
CC	CONCRETE CURB
UG	UNDER GROUND
CLF	CHAIN LINK FENCE
DC	DEPRESSED CURB
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
LSA	LANDSCAPED AREA
(TYP)	TYPICAL

MAP 173, BLOCK 2, LOT 7
N/F LANDS OF
DONN EZEKIEL & ANASTASIA WHEELER
BK. 55490, PG. 377
ZONE: R2

MAP 173, BLOCK 2, LOT 4.B
N/F LANDS OF
TERESA SUGRUE TRUSTEE
JTZ REALTY TRUST
BK. 30170, PG. 43
ZONE R2

MAP 173, BLOCK 2, LOT 4.C
N/F LANDS OF
JEREMIAH F HORGAN &
MARILYN L. HORGAN
BK. 10369, PG. 113
ZONE: R2

MAP 173, BLOCK 2, LOT 4.A
N/F LANDS OF
1420 MASSACHUSETTS AVENUE, LLC
BK. 67758, PG. 250
ZONE: B4

MAP 173, BLOCK 2, LOT 2
N/F LANDS OF
1406 MASSACHUSETTS AVENUE, LLC
BK. 48943, PG. 550
ZONE: B3

MAP 173, BLOCK 2, LOT 6.B
N/F LANDS OF
LEXINGTON DEVELOPMENT REALTY TRUST
BK. 59343, PG. 556
ZONE B4

PRIVATE DRIVE
(20' WIDE RIGHT OF WAY)
(OWNERS UNKNOWN)

MASSACHUSETTS AVENUE
(A.K.A. MASSACHUSETTS STATE ROUTE 2A)
(PUBLIC - VARIABLE WIDTH)
(ASPHALT ROADWAY) ⟺ TWO WAY TRAFFIC

1 STORY MASONRY BUILDING "SHERWIN WILLIAMS"

1 STORY BRICK BUILDING "CITIZEN'S BANK"
BUILDING HEIGHT = 17.6'±
BUILDING FOOT PRINT AREA = 1,840± SF
#1420

3 STORY FRAME BUILDING

TBM-A
EL.=154.38

TBM-B
EL.=156.41

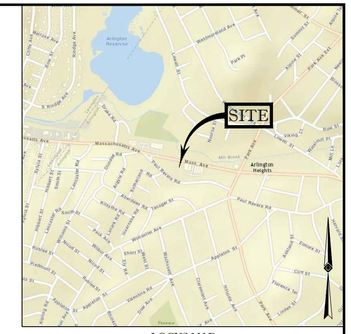
UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY MASSACHUSETTS ONE-CALL SYSTEM (1-888-344-7233) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.
REQUEST NUMBER: 20203209699

UTILITY COMPANY	PHONE NUMBER
AT&T TRANSMISSION	800-288-2020
VERIZON	800-922-0204
ZAYO	866-364-6033
COMCAST	800-934-6489
CENTURYLINK	866-642-0444
CROWN CASTLE NG NETWORKS	855-913-4237
MCI	888-624-5622
MBTA	800-392-6100
RCN	800-746-4726
EVERSOURCE ELECTRIC	800-592-2000
NATIONAL GRID GAS	800-233-5325
ALGONQUIN GAS/SPECTRA ENERGY	617-254-4050
FIRSTLIGHT - WAVEGUIDE	617-892-9700

THE COMMONWEALTH OF MASSACHUSETTS REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

PLAN 1006 OF 1967



LOCUS MAP
©2013 ESRI WORLD STREET MAPS
(NOT TO SCALE)

NOTES:

1. PROPERTY KNOWN AS LOT 1, BLOCK 1 AS SHOWN ON THE TOWN OF ARLINGTON, MIDDLESEX COUNTY, COMMONWEALTH OF MASSACHUSETTS, MAP NO. 170.
2. AREA = 19,727 SQUARE FEET OR 0.453 ACRES
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE AS-BUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
6. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), GEOID 12A, BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS) TAKEN AT THE TIME OF THE FIELD SURVEY.

   TEMPORARY BENCH MARKS SET:

   TBM-A: MAG NAIL SET IN BRICK SIDEWALK, ELEVATION = 154.38

   TBM-B: MAG NAIL SET IN BRICK SIDEWALK, ELEVATION = 156.41
7. BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER REF. #2
8. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
9. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.

REFERENCES:

1. THE TAX ASSESSOR'S MAP OF ARLINGTON, MIDDLESEX COUNTY, MASSACHUSETTS, SHEET #173.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS) PANEL 416 OF 656," MAP NUMBER 25017C0416E, EFFECTIVE DATE: JUNE 4, 2010.
3. MAP ENTITLED "PLAN OF LAND IN ARLINGTON BELONGING TO JOSEPH H. EATON," PREPARED BY J.O. GOODWIN, DATED DECEMBER 1895, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS.
4. MAP ENTITLED "PLAN OF LAND, 1406 MASSACHUSETTS AVE, ARLINGTON, MA," PREPARED BY ALLEN & MAJOR ASSOCIATES, INC., DATED MARCH 9, 2010, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN NO. 464 OF 2010.
5. MAP ENTITLED "PHASE II PAUL REVERE CROSSING CONDOMINIUM, MODIFICATION, MASTER DEED PLAN IN ARLINGTON, MA (MIDDLESEX COUNTY)," PREPARED BY ROBER SURVEY, DATED SEPTEMBER 19, 2013, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 800 OF 2013.
6. MAP ENTITLED "SITE PLAN, 65-67 PAUL REVERE ROAD, CONDOMINIUM," PREPARED BY CCR ASSOCIATES, INC., DATED MARCH 12, 2012, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 177 OF 2012.
7. MAP ENTITLED "PAUL REVERE CROSSING CONDOMINIUM, MASTER DEED PLAN IN ARLINGTON, MA (MIDDLESEX COUNTY)," PREPARED BY ROBER SURVEY, DATED APRIL 1, 2013, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 217 OF 2013.
8. MAP ENTITLED "SUBDIVISION OF LAND IN ARLINGTON - MASS.," PREPARED BY JOSEPH J. SULLIVAN, DATED JUNE 1969, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 659 OF 1969.
9. MAP ENTITLED "PLAN OF LAND IN ARLINGTON, MA (MIDDLESEX COUNTY)," PREPARED BY H&R SURVEY, DATED AUGUST 18, 1997, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN NO. 1056 OF 1997.
10. MAP ENTITLED "SUBDIVISION PLAN OF LAND, ARLINGTON, MASS.," PREPARED BY SELWYN & KIRWIN ASSOCIATES, DATED DECEMBER 4, 1979, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 1527 OF 1979.
11. MAP ENTITLED "ALTA/ACSM LAND TITLED SURVEY, PREPARED FOR CITIZENS BANK, CITIZENS FINANCIAL GROUP, 1420 MASSACHUSETTS AVENUE, CITY OF ARLINGTON, COUNTY OF MIDDLESEX, STATE OF MASSACHUSETTS," PREPARED BY MILLMAN SURVEYING, DATED APRIL 18, 2006, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 1564 OF 2006.
12. MAP ENTITLED "SUB-DIVISION OF LAND IN ARLINGTON MASS," PREPARED BY JOS. J. SULLIVAN, DATED DECEMBER, 1952, RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS, PLAN 66 OF 1953.
13. MAP ENTITLED "BOSTON EDISON COMPANY, TRANSMISSION AND DISTRIBUTION DEPT.," RECORDED IN THE MIDDLESEX COUNTY REGISTRY OF DEEDS IN BOOK 7343, PAGE 58.
14. UNDERGROUND ELECTRIC FACILITY MAPPING PROVIDED BY EVERSOURCE
15. UNDERGROUND COMMUNICATION LINE MAPPING PROVIDED BY RCN
16. PLAN SET ENTITLED "SITE REDEVELOPMENT PLANS FOR BIERBRIER DEVELOPMENT, INC. #1406 MASSACHUSETTS AVENUE, ARLINGTON, MA," DATED AUGUST 19, 2009, PREPARED BY ALLEN & MAJOR ASSOCIATES, INC.

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

No.	DESCRIPTION OF REVISION	FIELD CREW	DRAWN:	APPROVED:	DATE
2	CONTOURS & GRADES ADDED & ROADWAY DETAIL ADDED	-	S.P.P.	G.L.H.	08-28-2020
1	REVISED PER ATTORNEY'S COMMENTS	-	S.P.P.	G.L.H.	08-03-16

THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

NOT A VALID ORIGINAL DOCUMENT UNLESS EMBOSSED WITH RAISED IMPRESSION OR STAMPED WITH A BLACK INK SEAL

COMMONWEALTH OF MASSACHUSETTS
GERRY L. HOLDRIGHT
NO. 49211
REGISTERED PROFESSIONAL LAND SURVEYOR

8-28-20
DATE

GERRY L. HOLDRIGHT, PLS
MASSACHUSETTS PROFESSIONAL LAND SURVEYOR #49211

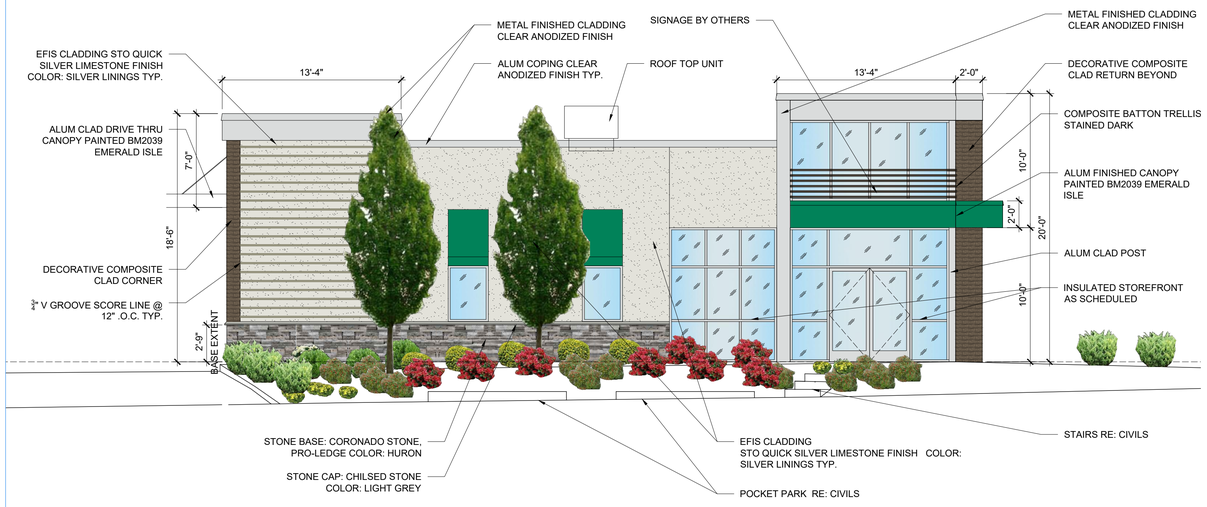
FIELD DATE	6-30-16
FIELD BOOK NO.	71-72
FIELD BOOK PG.	16-03MA
FIELD CREW	B.S.B.
DRAWN:	INDO
REVIEWED:	S.P.P.

BOUNDARY AND TOPOGRAPHIC SURVEY
1420 MASSACHUSETTS AVENUE, LLC
1420 MASSACHUSETTS AVENUE
LOT 4.A, BLOCK 2, MAP 173
TOWN OF ARLINGTON, MIDDLESEX COUNTY
COMMONWEALTH OF MASSACHUSETTS

CONTROL POINT ASSOCIATES, INC.
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
508.948.3000 - 508.948.3003 FAX
MANHATTAN, NY 646.780.0411
MT. LAUREL, NJ 609.857.2099
CHALFONT, PA 215.712.9800
WARREN, NJ 908.668.0099

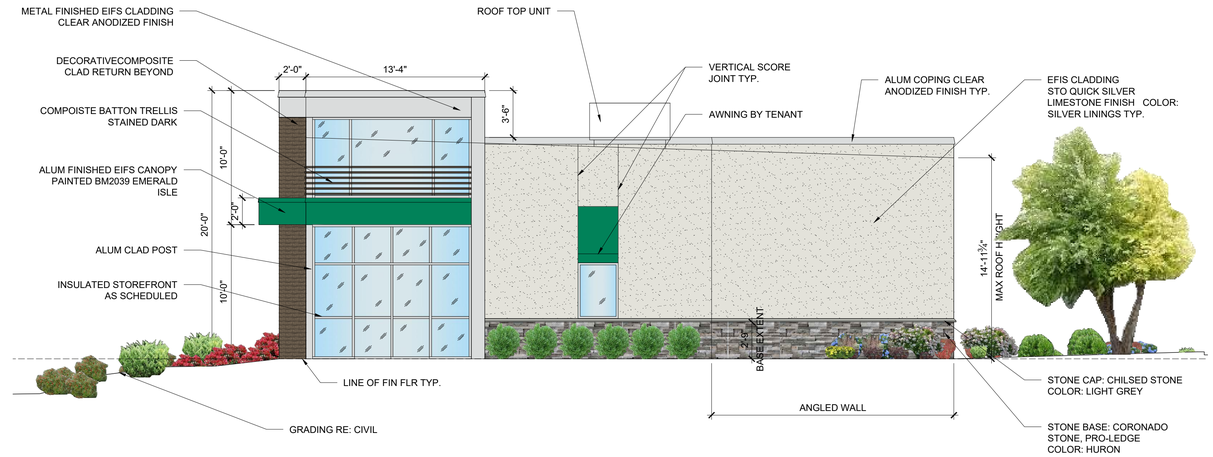
APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
G.L.H.	7-15-16	1"=10'	03-160131A	1 OF 1

CONTROL POINT ASSOCIATES, INC. - ALL RIGHTS RESERVED
THE CONTENTS OF THIS PLAN ARE AN ORIGINAL WORK OF CONTROL POINT ASSOCIATES, INC. AND THE ORIGINAL PROJECT OR THE PURPOSE ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF CONTROL POINT ASSOCIATES, INC. IS PROHIBITED



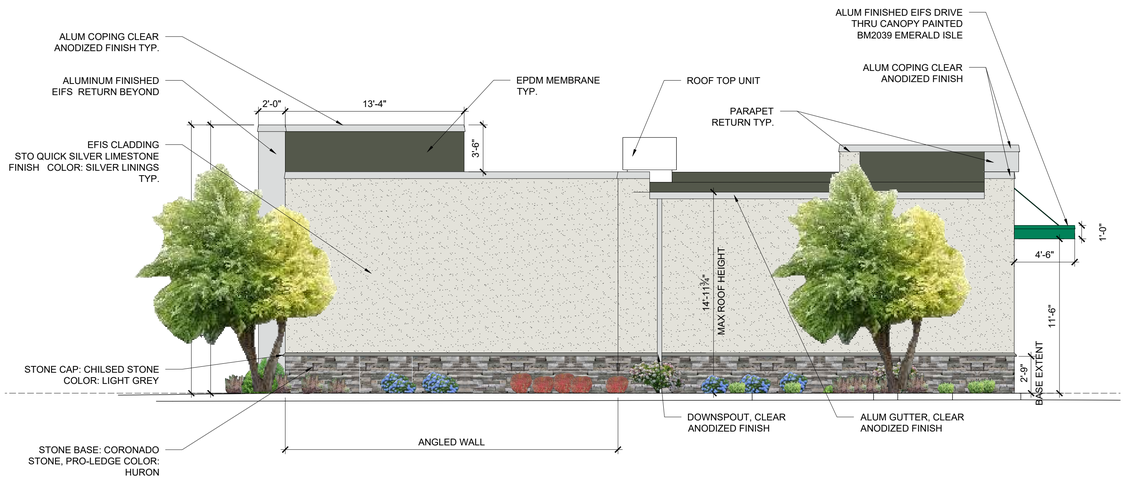
PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"



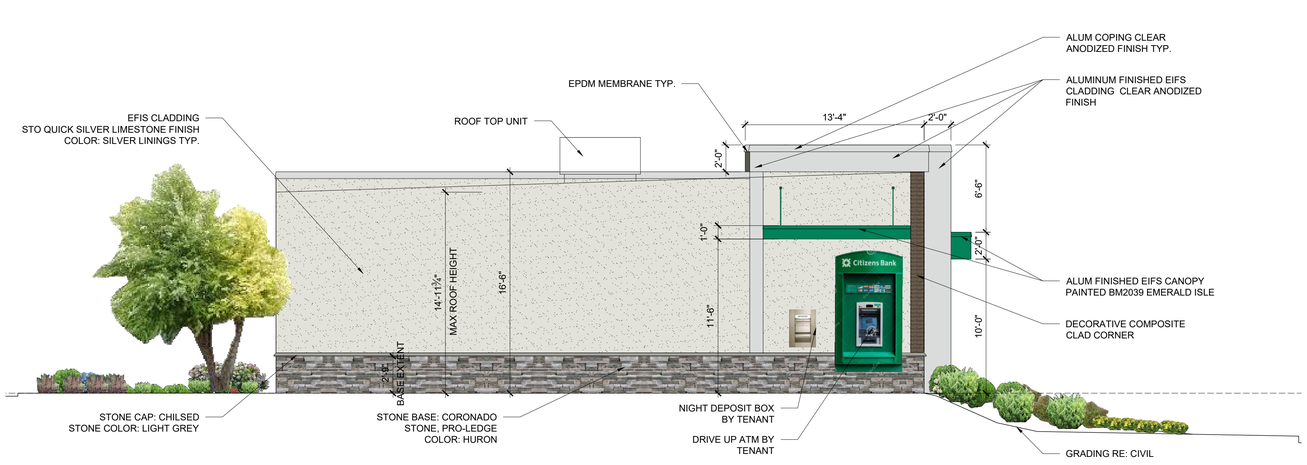
PROPOSED RIGHT SIDE ELEVATION

SCALE: 3/16"-1'-0"



PROPOSED REAR ELEVATION

SCALE: 3/16"-1'-0"



PROPOSED LEFT SIDE ELEVATION (DRIVE-THRU)

SCALE: 3/16"-1'-0"

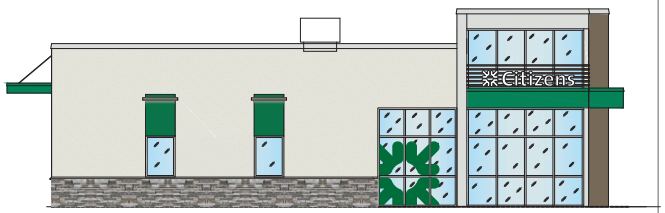
Conceptual Elevations

BKA ARCHITECTS
Boston + Brockton
142 Crescent Street
Brockton, MA 02302
508.583.5403
bkaarchitects.com

Citizens

SIGN SUBMITTAL PACKAGE

Arlington Heights



GENERAL NOTES & PERMIT TIMES

ELECTRICAL ACCESS

It is recommend for Electrician to put all exterior signage on a single circuit with a timer or photo-cell to allow for signs to illuminate at night only.

TABLE OF CONTENTS

PAGE	SIGN TYPE	SQ.FT.	COLOR	VARIANCE REQUIRED?	VARIANCE EXPLANATION (IF REQD.)
2	Site map				
	Massachusetts Avenue				
3	S1 - ICLL-2-18 - Illum. White channel letters	15.09	White	No	
4	S3 - ALB-1 - Green awning with light bar	-	Green	No	
11	S8 - Green window vinyl 77" H x 73" W	-	Green	No	
7	S9 - DHR-2 - Door hours double doors	-	White	No	
7	S10 - DH-1 - Door handles	-	Green	No	
	Total Sign Area Requested this Elevation	15.09			
	Right Side (West) Entry Elevation				
5	S2 - ICLL-2-18 - Illum. White channel letters	15.09	White	Yes	
6	S4 - ALB-1 - Green awning with light bar	-	Green	No	
	Total Sign Area Requested this Elevation	15.09			
	Left Side (East) Drive Thru				
8	S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.	-	Green	No	
8	S6 - ATM-NGP-1 - ATM network panel	-	Gray	No	
	S7 - Removed from scope	10.5	Green	Yes	
	Total Sign Area Requested this Elevation	10.5			
	Freestanding Signage				
11	S11 - D/F Pylon Sign Reface				
12	Code Check				
	Total Sign Area Allowable	40			
	Total Sign Area Requested	40.68			
	Difference	0.68			

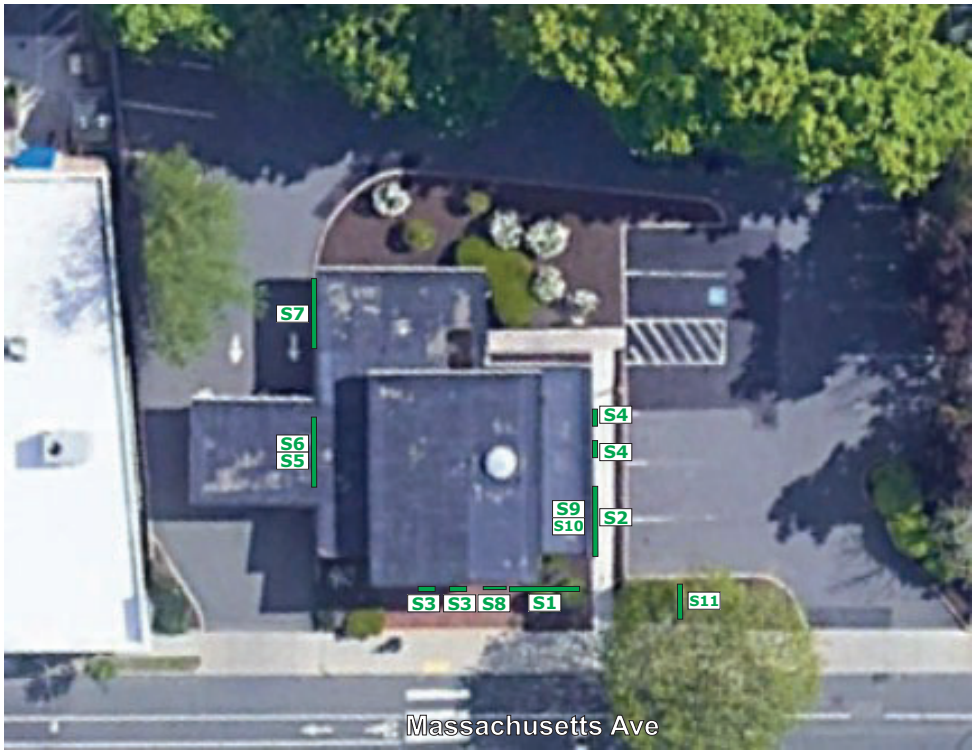
AGI
2655 International Pkwy., Virginia Beach, VA 23452
PHONE: (757) 427-1900 - FAX: (757) 430-1297
www.AGI.net

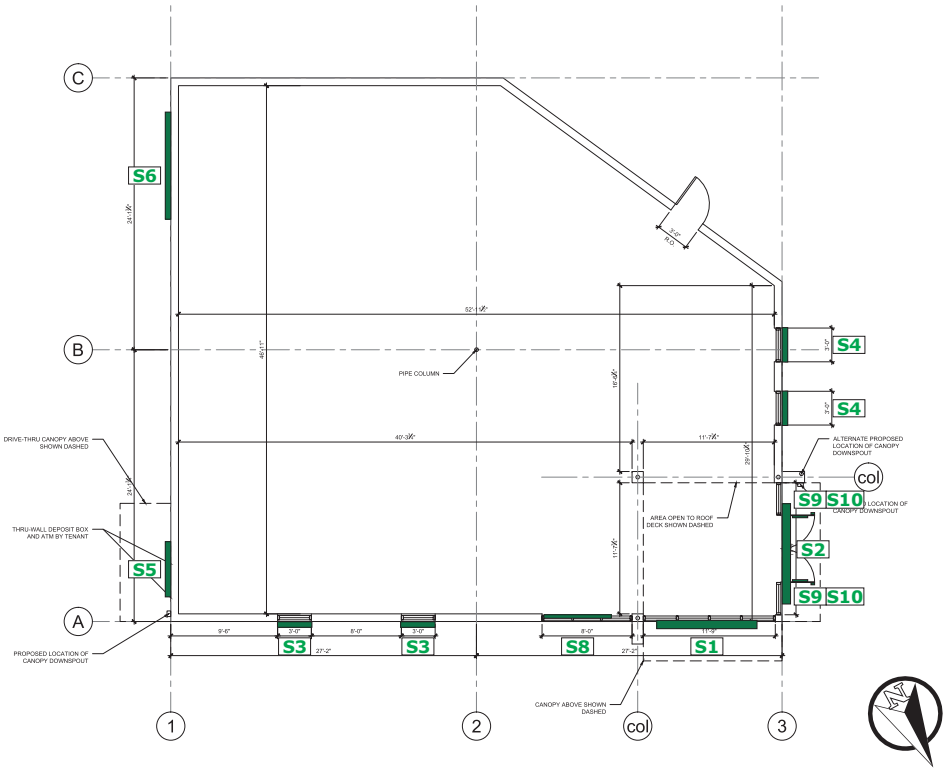
BRANCH NUMBER: R/C NUMBER:
REQUIRES VARIANCE: ☐NO ☑YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS
PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

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PROPOSED FLOOR PLAN

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www.AGI.net

BRANCH NUMBER: R/C NUMBER:
REQUIRES VARIANCE: ☐NO ☐YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
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CITIZENS BANK DESIGN MANAGER:

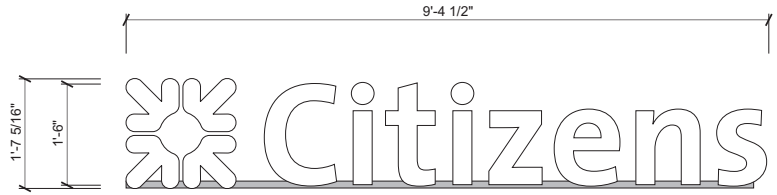
APPROVAL STAMP:

SITE MAP

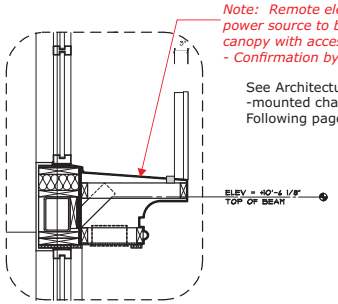
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S1 - ICLL-2-18- Channel Letters, White - illuminated, Horizontal 1’-7 5/16” OAH x 9’-4 1/2” OAW, 15.09 SF

Note: Electrical required 120v @ 3 amps required. Conduit run to sign, provided by GC.

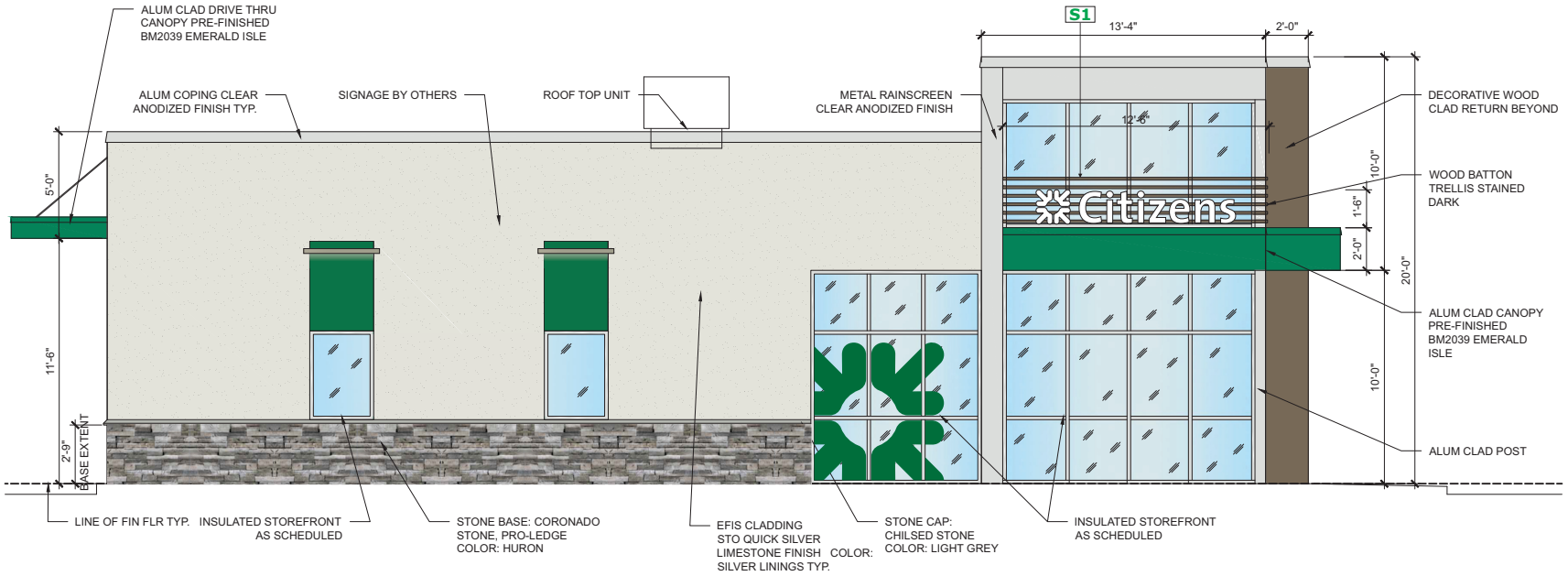


ICLL-2-18



Note: Remote electrical wiring and power source to be housed inside canopy with access panel provided - Confirmation by Architect and GC

See Architectural Detail for canopy -mounted channel letters Following page



PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

AGI
2655 International Pkwy., Virginia Beach, VA 23452
PHONE: (757) 427-1900 - FAX: (757) 430-1297
www.AGI.net

BRANCH NUMBER: R/C NUMBER:
REQUIRES VARIANCE: ☐NO ☐YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS
PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

MARKET STREET

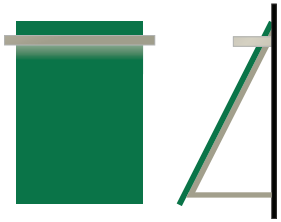
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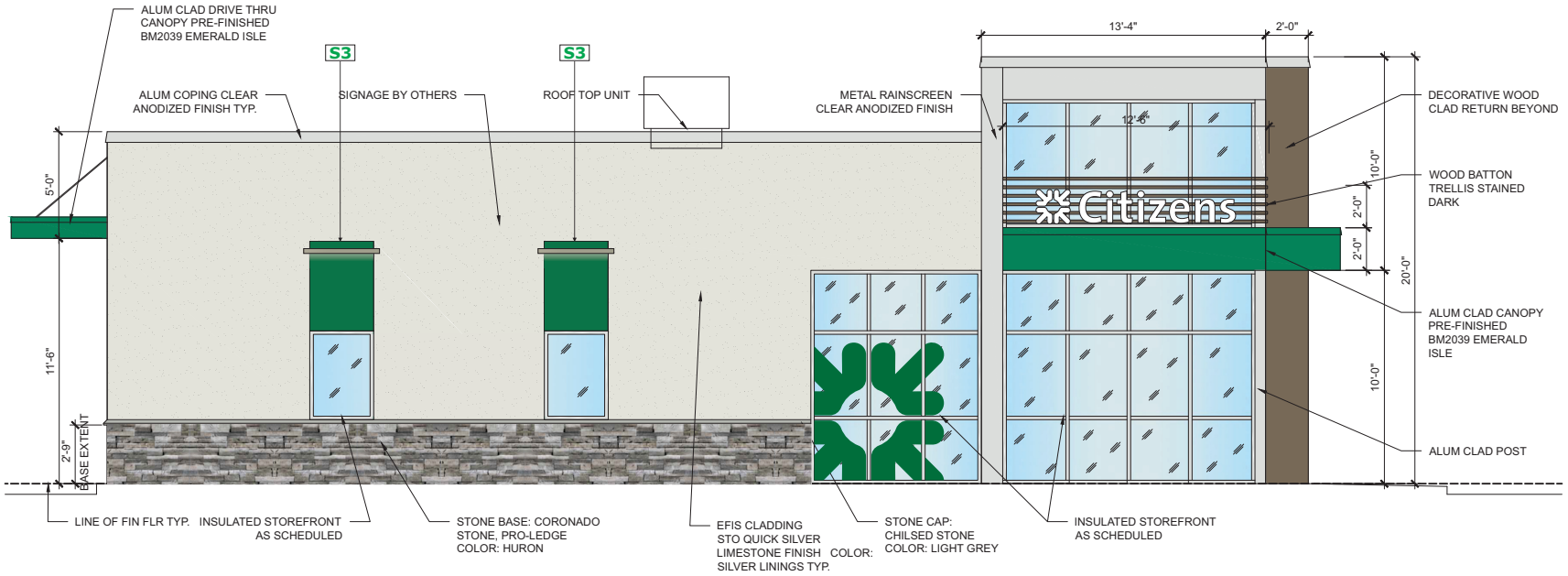
S3 - ALB-1 - Green awning with light bar

Note: Dimensions (±4'-2"H x ±3'-0"W) to be verified

Note: Electrical required 120v @ 3 amps required.

Conduit stub out required for awning light bar by GC.





PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

AGI

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PHONE: (757) 427-1900 - FAX: (757) 430-1297
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BRANCH NUMBER: R/C NUMBER:

REQUIRES VARIANCE: ☐NO ☐YES ☐TBD

BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA

DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021

PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS

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Devin White

CITIZENS BANK PROJECT MANAGER:

CITIZENS BANK DESIGN MANAGER:

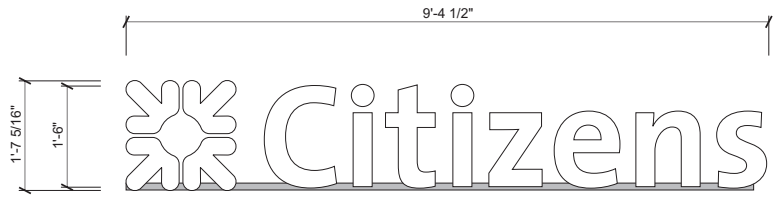
APPROVAL STAMP:

MARKET STREET

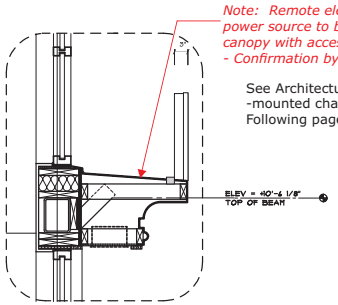
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S2 - ICLL-2-18- Channel Letters, White - illuminated, Horizontal 1’-7 5/16” OAH x 9’-4 1/2” OAW, 15.09 SF

Note: Electrical required 120v @ 3 amps required. Conduit run to sign, provided by GC.

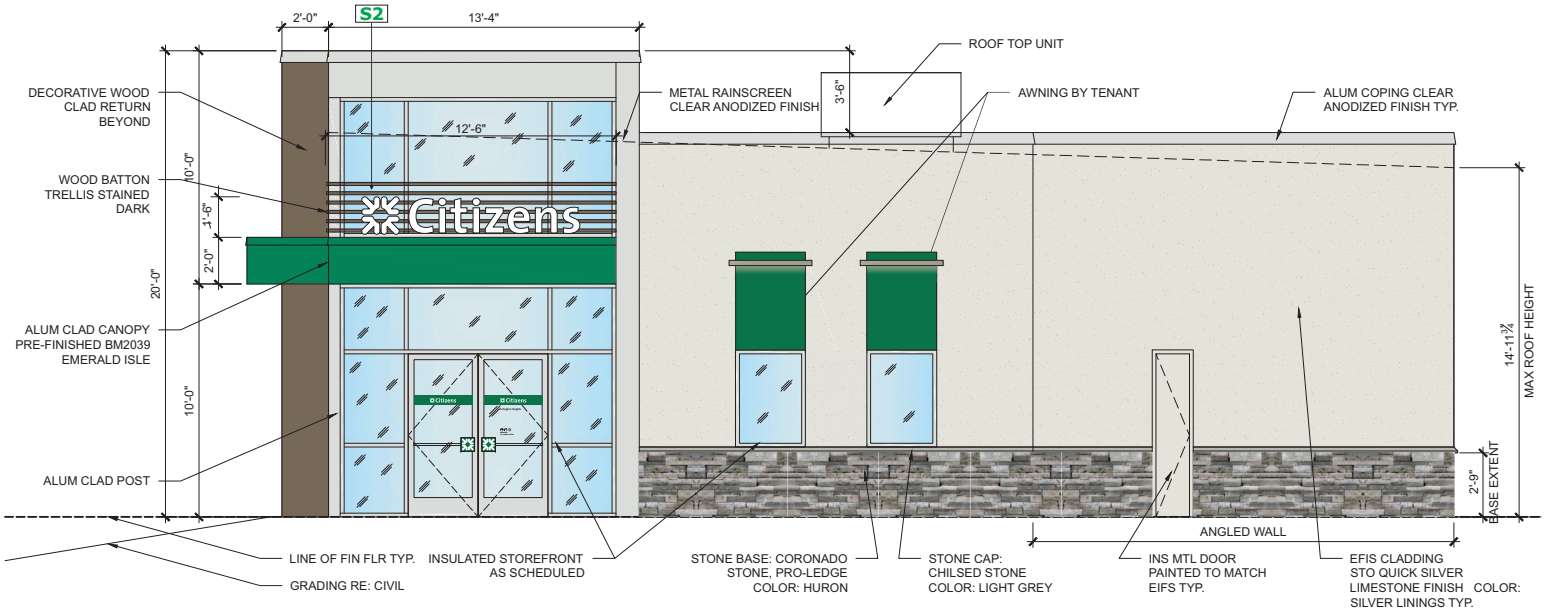


ICLL-2-18



Note: Remote electrical wiring and power source to be housed inside canopy with access panel provided - Confirmation by Architect and GC

See Architectural Detail for canopy -mounted channel letters Following page



PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

SCALE: 3/16"-1'-0"

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PHONE: (757) 427-1900 - FAX: (757) 430-1297
www.AGI.net

BRANCH NUMBER: R/C NUMBER:
REQUIRES VARIANCE: ☐NO ☐YES ☐TBD
BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS
PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

MARKET STREET

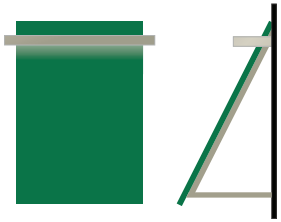
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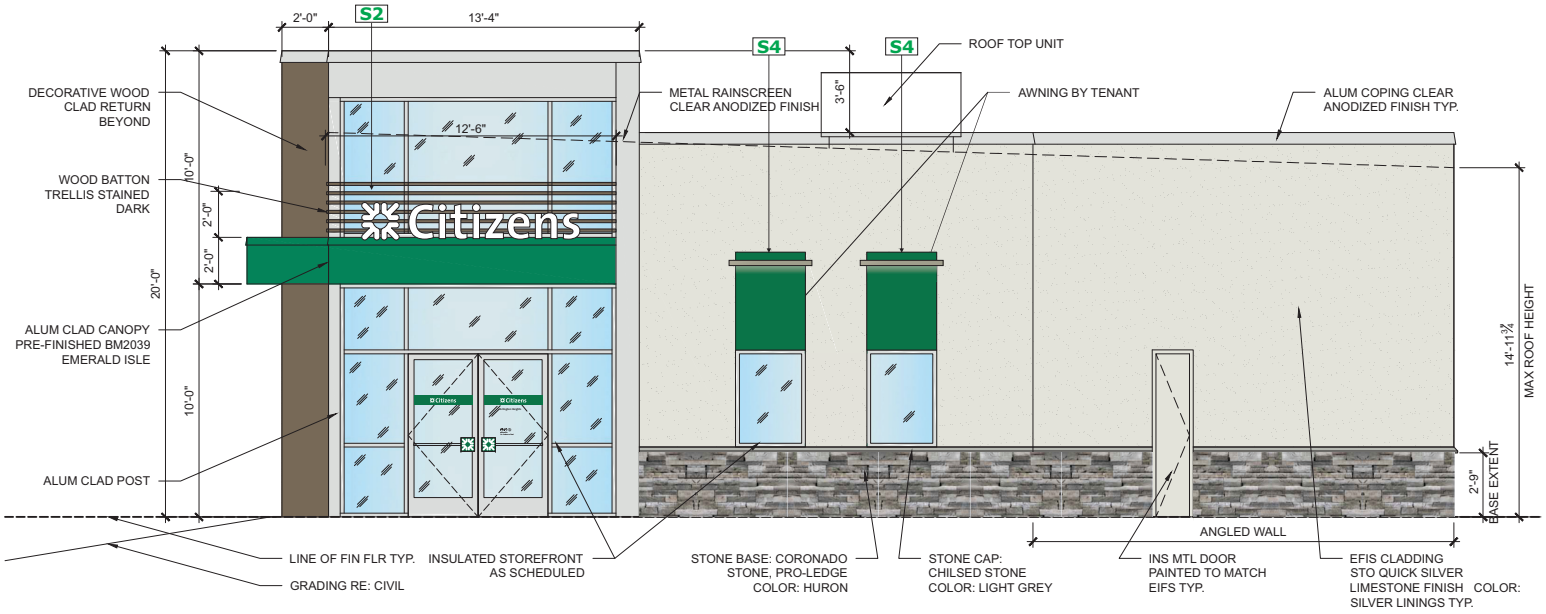
S4 - ALB-1 - Green awning with light bar

Note: Dimensions (±4'-2"H x ±3'-0"W) to be verified

Note: Electrical required 120v @ 3 amps required.

Conduit stub out required for awning light bar by GC.





PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

SCALE: 3/16"-1'-0"

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BRANCH NUMBER: R/C NUMBER:

REQUIRES VARIANCE: ☐NO ☐YES ☐TBD

BRANCH NAME & ADDRESS:
Citizens - Arlington Heights
1420 Massachusetts Avenue
Arlington, MA

DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021

PATH: O:\Citizens Bank\Site Folders\Arlington Heights

CONTACTS

PROJECT MANAGER:
Devin White

CITIZENS BANK PROJECT MANAGER:

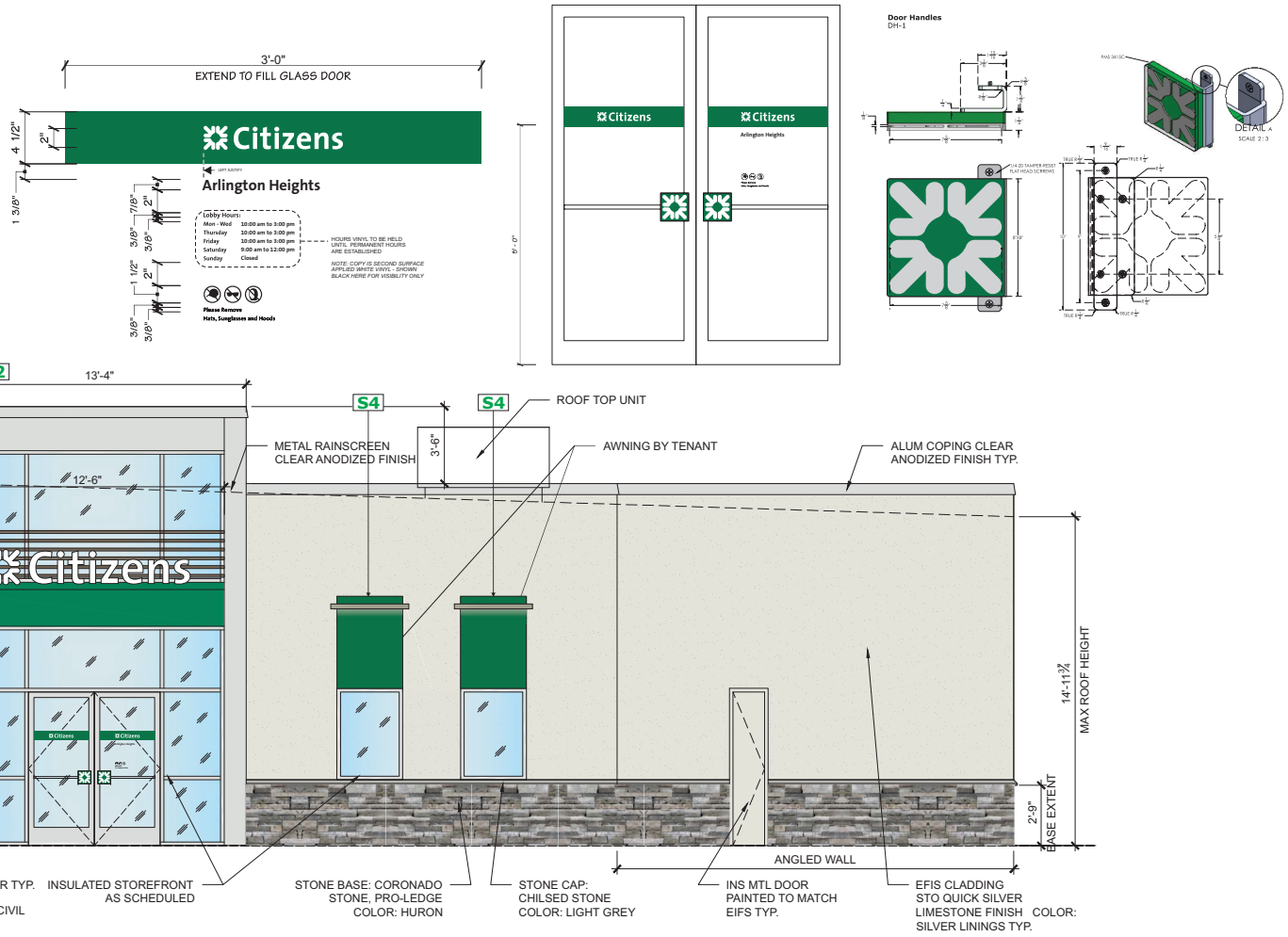
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

MARKET STREET

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S9 - DHR-2 - Door hours double doors
S10 - DH-1 - Door handles
Note: Lock position is under the handle.



PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

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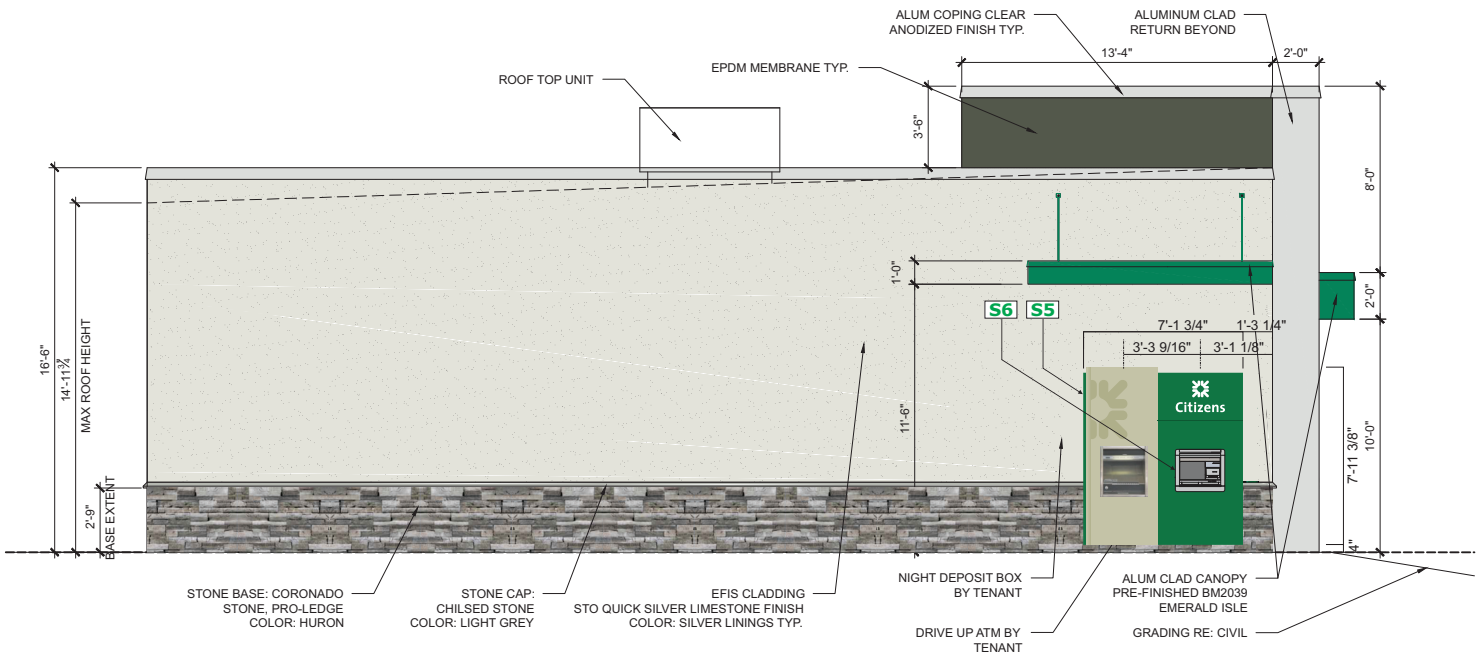
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S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.
S6 - ATM-NGP-1 - ATM network panel
Note: Dimensions and placement of ATM and Night Depository to be confirmed



PROPOSED LEFT SIDE ELEVATION (DRIVE-THRU)

SCALE: 3/16"-1'-0"

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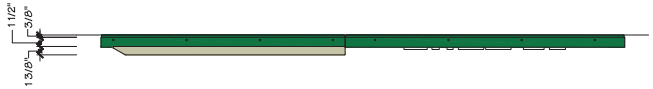
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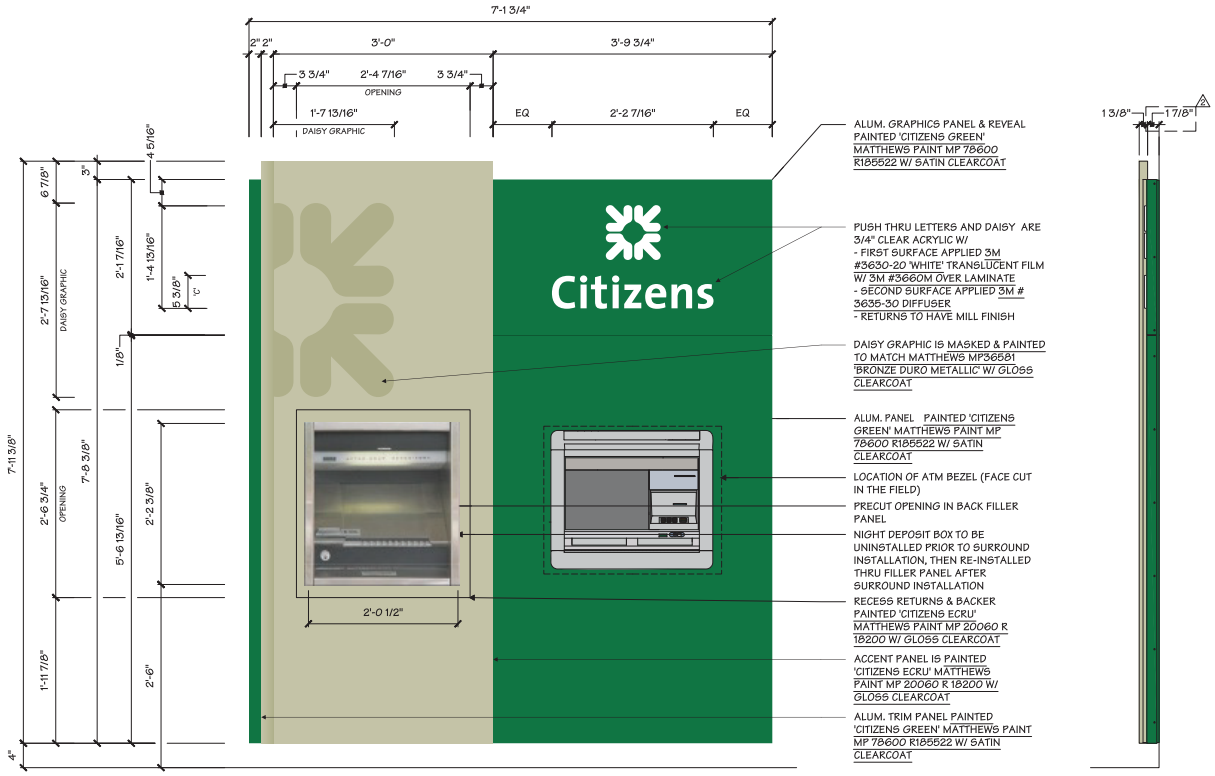
S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.
S6 - ATM-NGP-1 - ATM network panel

Note: Dimensions and placement of ATM and Night Depository to be confirmed

NOTES:
1.) CABINET INTERIOR TO BE PAINTED SPRAYLAT STAR-BRITE LIGHT ENHANCEMENT PAINT.
2.) ATM OPENING & BEZEL SHOWN ARE FOR NCR 6684 PER DESIGN INTENT DRAWINGS.



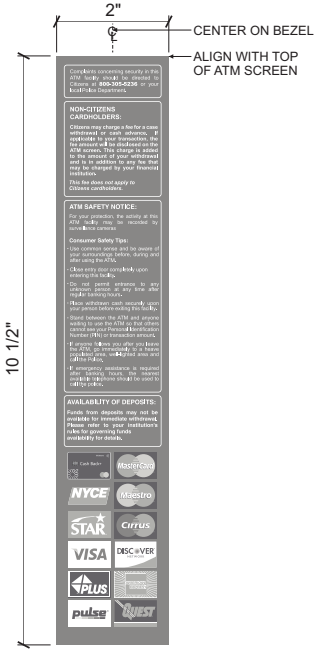
1 / 1 TOP VIEW



2 / 1 FRONT ELEVATION

3 / 1 END VIEW

Note: Artwork for Post Birch NGP-1 to be verified by CFG



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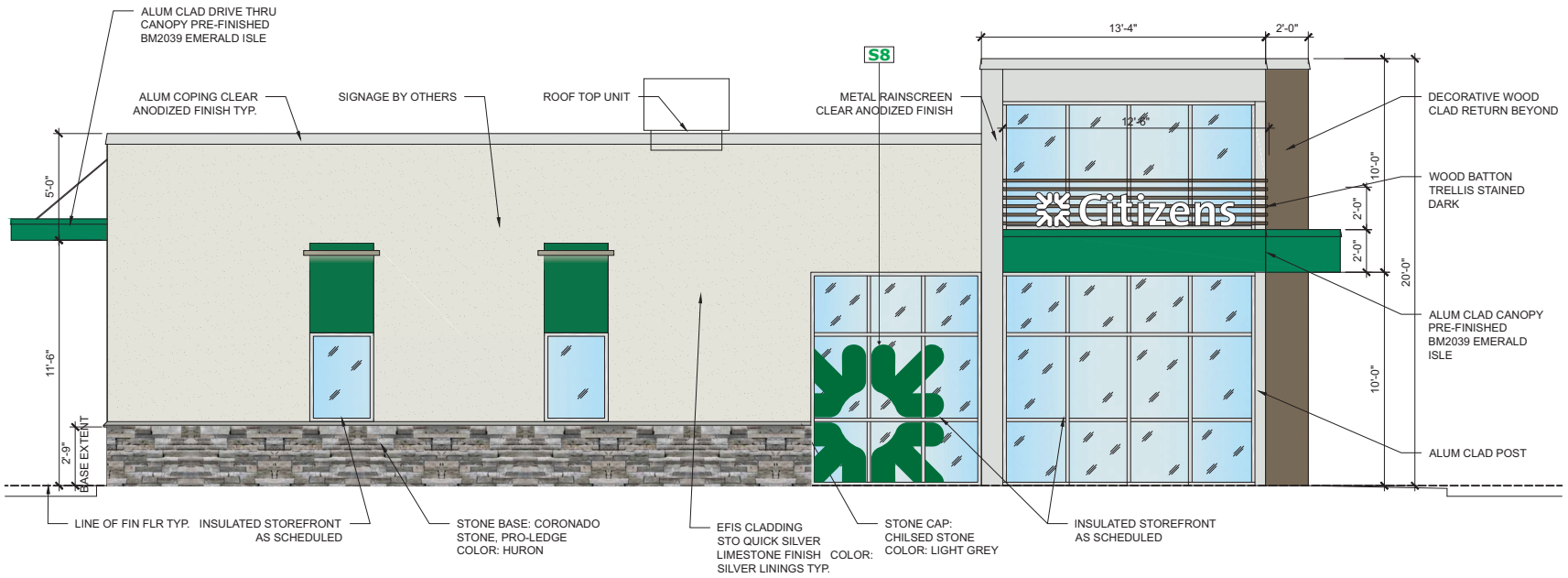
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S8 - Green window vinyl 77" High x 73" Wide

Note: To be provided and installed by MZ



PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

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S11 - Reface existing double-faced Pylon Sign
Note: Reface only, Dimensions to be determined





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PRE-PERMIT SIGN INFO

Property ID: ARLINGTON -001

A.) Project Name:	Citizens Bank	DATE COMPLETED	1/11/21
B.) Street Address:	1420 Massachusetts Avenue		
C.) Town / City / State / Zip:	Arlington, MA 02476		
D.) Contact for Permit/Zoning:	Jennifer Raitt		
E.) Contact Telephone:	781-316-3090		
F.) Jurisdiction: City/Town:	Town of Arlington	Address:	730 Mass Avenue Annex
or, County of:		City, ST Zip:	Arlington, MA 02476

G.) Zoning Classification for property:	B4 Vehicular Oriented Business District.
H.) Is there a Master Sign Plan?	No MSP was found during research, there may be an MSP in place here, we strongly suggest checking with the
I.) Is a permit required?	Yes.
J.) What documents are required to file for the permit?	Application: https://www.arlingtonma.gov/home/showpublisheddocument?id=1952
K.) How long is the permit process?	3-5 weeks.
are there special reviews involved?	Not indicated during research, however the town reserves the right to request additional review(s) based on
overlay districts?	See above.
city and county review required?	See above.
design review board / ARB / DRB ?	See above.
community association review required?	See above.
L.) What are the fees for a sign permit?	https://www.arlingtonma.gov/departments/inspectional-services/applications-fees-forms/permit-fees
M.) Is engineering needed for wall signs?	May be required based on the scope of work, subject to plan review.
N.) Does engineering require a PE stamp?	See above.
O.) Is landlord approval required?	Yes.
P.) Legal Description Required for permit?	Yes.
Q.) Plat/Site Plan required for permit?	Yes.

ATTACHED SIGNS & WINDOW GRAPHICS

1.) Formula for calculating wall sign square footage (Max. Sq. Footage - Primary & **Wall signs: Maximum 40 sq. ft. per business.**

2.) Sq.Ft allowance for bldg. sides/rear:

The total sign area for signs on single-tenant or multi-tenant buildings may be placed on any building elevation, subject to the following standards:

(1) At least 1 sign must be placed above or associated with the building entry;

(2) The width of the sign shall be no greater than 60% of the width of the building element on which it is displayed;

(3) Signs shall be placed at least 12 inches or 20% of the width of the building element on which they are mounted, whichever is less, from the sides of the building element;

(4) Signs shall be placed at least 12 inches or 20% of the height of the building element on which they are mounted, whichever is less, from the top and bottom edge of the building element; and

(5) Signs shall be placed no higher than the lowest of the following:

a. 25 ft. above grade;

b. The bottom of the sill of the first level of windows above the first story; or

c. The cornice line of the building at the building line.

3.) How is the sign area calculated?

Signs on Background Panel: Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.

Signs with Individual Letters: Sign copy mounted as individual letters or graphics against a wall, fascia, mansard, or parapet of a building or surface of another structure, that has not been painted, textured or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the total sign.

Signs on Illuminated Surfaces: Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.

Irregular Shaped Signs: Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.

Two face signs: If the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces.

4.) Total # Wall Signs allowed per building elevation:	Wall signs: Maximum 1 per frontage.
5.) What is the max letter/character height allowed?	Signs shall be placed no higher than the lowest of the following:
6.) Does the ordinance restrict color, design or illumination?	Illumination: Non-illuminated, internally illuminated, or externally illuminated. See
7.) Does window vinyl need to be permitted, if so how much is allowed?	Combined area of permanent and temporary window signs must not exceed
8.) Is the entire graphic calculated or just the company logo and name?	Entire graphic area.

FREESTANDING SIGNS

1.) Formula for calculating freestanding sign sq. footage (Max Sq Footage- Primary & Secondary signs):
Monument signs: Maximum 24 sq. ft. The name of a property is included in the area and height limits for freestanding signs.

2.) # F/S Signs allowed:	Monument signs: Maximum 1 per frontage.	Internal illumination allowed:	Monument signs: Non-illuminated or
3.) Height Maximum:	Monument signs: Maximum 8 feet to the	Clearance from grade to sign:	Must be monument signs.

4.) Set-back of sign from right-of-way or property line:

Monument signs: Minimum 5 feet setback from property line.

Signs may not be placed on property at any corner formed by intersecting streets, within the triangular area formed between the property lines and a diagonal line joining points on the property lines 25 feet from the point of their intersection, or in the case of rounded property line corners, the triangular area between the tangents to the curve at such corner and a diagonal line joining points on the tangents 25 feet from the point of their intersection.

DIRECTIONAL SIGNS

5.) Number Allowed:	Wall sign directional/driveway: Max 3 per lot.	Maximum Square Footage:	Wall sign directional/driveway: Max. 3 sq. ft. per
6.) Illumination Allowed?	Wall sign directional/driveway: Non-illuminated	Maximum Height:	Wall sign directional/driveway: Mounting height-
7.) Permit Required?:	Wall sign directional/driveway: Sign permit	Customer Logo Allowed:	Not stipulated by code, subject to plan review.

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TEMPORARY BANNERS

1.)	What temporary sign types are allowed?	Allowed Sign Types: A-Frame or Upright Signs; Yard Sign Type I, II, and III; Wall Banners; and Window
2.)	What is the max sign size area?	Max. 24 sq. ft. per business; excludes the area of temporary wall banner signs and window signs.
3.)	How is the sign area calculated?	

Signs on Background Panel: Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.
Signs with Individual Letters: Sign copy mounted as individual letters or graphics against a wall, fascia, mansard, or parapet of a building or surface of another structure, that has not been painted, textured or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the total sign.
Signs on Illuminated Surfaces: Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.
Irregular Shaped Signs: Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.
Two face signs: If the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces.

4.)	Are logos factored into sign area?	Yes.
5.)	How many signs per elevation?	Number of Signs: Unlimited, except that the total sign area must not exceed 24 sq. ft. per business.
6.)	How long can signs be up?	A temporary sign permit for a wall banner is valid for 60 days beginning with the date of issuance.
7.)	Does the ordinance restrict color, design or illumination?	

A temporary sign permit is required for the display of temporary wall banner signs. Portable and temporary signs are not counted toward the total allowable sign area or number of permanent signs. Sign placement must not create a hazard for pedestrian or vehicular traffic and must allow for a 4-foot wide sidewalk to comply with the Americans with Disabilities Act.
Signs must be of sufficient weight and durability to withstand wind gusts, storms, etc., for the safety of pedestrians, bicyclists, and vehicles.
Prohibited Elements: Illumination, including flashing, blinking, or rotating lights; animation; reflective materials; and attachments, including balloons, ribbons, loudspeakers, etc.
Temporary wall banner: Signs must be mounted on a building wall or on T-posts or stakes installed 6 inches or less from the wall.

VARIANCE INFORMATION

1.)	Variance cost?	$400.00 and up.
2.)	Variance time frame?	2-5 months.
3.)	Variance document deadline?	One month prior to meeting.
4.)	Variance meeting dates?	https://www.arlingtonma.gov/town-governance/boards-and-committees/zoning-board-of-appeals/zba-
5.)	Variance documents required?	https://www.arlingtonma.gov/home/showpublisheddocument?id=24805
6.)	How many sets?	7 sets.
7.)	Likelihood of variance approval?	35%

DOCUMENTS REQUIRED FOR PERMITS

Scaled Plot plan	☑	☑ Building elevations	☑ Elevation Drawings	Electrical Permit ☑
Installation drawings	☑	☑ Legal description	☐ Sealed engineering drawings	Notice of Commencement ☐
Sign drawings	☑	☑ Photo of existing	☑ Property Manager's Approval	

Sign Code: https://www.arlingtonma.gov/home/showpublisheddocument?id=43413

Note: If the Building Inspector determines that a separate electrical or structural permit is required, the applicant shall be notified. The sign permit shall not be issued until all other required permits have been obtained.

Prohibited signs: 1. Bandit signs,
2. Cabinet signs, and
3. Electronic message centers or electronic displays.

Signs with the following display features are prohibited:
1. Animated features which rotate, move, or give the appearance of moving by mechanical, wind, or other means.
2. Lighting devices with intermittent, flashing, rotating, blinking or strobe light illumination, animation, motion picture, or laser or motion picture projection, or any lighting effect creating the illusion of motion, as well as laser or hologram lights.
3. Internally illuminated signs with a directly exposed light source, except for neon incorporated into the design of a permanent window sign.
4. Surfaces that reflect light by means of a glossy, polished, or mirrored surface.

Numerals and letters up to 2 square feet in area used to identify an address are not included in the determination of sign area.

All allowed permanent signs may be non-illuminated, illuminated by internal light fixtures, halo illuminated, or illuminated by external indirect illumination, unless otherwise specified. All temporary signs must be nonilluminated.
1. No sign shall be illuminated between 12:00 AM and 6:00 AM, except signs identifying emergency services such as police and ambulance stations or hospitals and signs on premises open for business during that time.
2. Internally Illuminated Signs:
a. Internally illuminated signs include signs constructed with pan channel letters, preferably without raceways, or internal/indirect halo illuminated channel letters on an unlit or otherwise indistinguishable background on a freestanding sign or building wall.
b. Single-color LED signs are considered internally illuminated signs.
3. Externally Illuminated Signs. Externally illuminated signs must be illuminated only with steady, stationary, fully-shielded light sources directed solely onto the sign without causing glare. The light source for externally illuminated signs must be arranged and shielded to substantially confine all direct light rays to the sign face and away from streets and adjacent properties.
4. Direct illumination is limited to marquee signs; see Section 6.2.5(C)(6) and is limited to the illumination of letters, numbers, symbols and accents on the marquee sign. Exposed lamps may only be animated to create an effect of patterned illusionary movement provided the alternate or sequential activation of the illuminated elements occurs on a cycle that exceeds two seconds.

Neon or single-color LED signs placed in a window count toward the aggregate area for all window signs and must not exceed 25 percent of the area of the window. Any individual neon or single-color LED sign must not exceed four square feet in area. Other uses of neon are prohibited.

Structure and Installation: (1) Any angle iron, bracing, guy wires, or similar features used to support a sign must not be visible to the extent technically feasible.
(2) Where electrical service is provided to freestanding signs or building mounted signs, the service must be placed underground and concealed. Electrical service to building mounted signs, including conduit, housings, and wire, must be concealed or, when necessary, painted to match the surface of the structure upon which they are mounted. A building permit shall be issued prior to installation of any new signs requiring electrical service.
(3) Raceway cabinets shall only be used in building mounted signs when access to the wall behind the sign is not feasible, shall not extend in width and height beyond the area of the sign, and shall match the color of the building to which it is attached. Where a raceway cabinet provides a contrast background to sign copy, the colored area is counted in the total allowable sign area allowed for the site or business. A raceway cabinet is not a cabinet sign.
(4) All permanent signs allowed by this Section must be constructed of durable materials capable of withstanding continuous exposure to the elements and the conditions of a built-up environment and must be permanently attached to the ground, a building or another structure by direct attachment to a rigid wall, frame, or structure.

Monument signs: Landscaping- A landscaped area consisting of shrubs, and/or perennial ground cover plants with a max. spacing of 3 ft. on center is required around the base of the signs. The landscape area must be a min. of 2 sq. ft. for each 1 sq. ft. of sign area.

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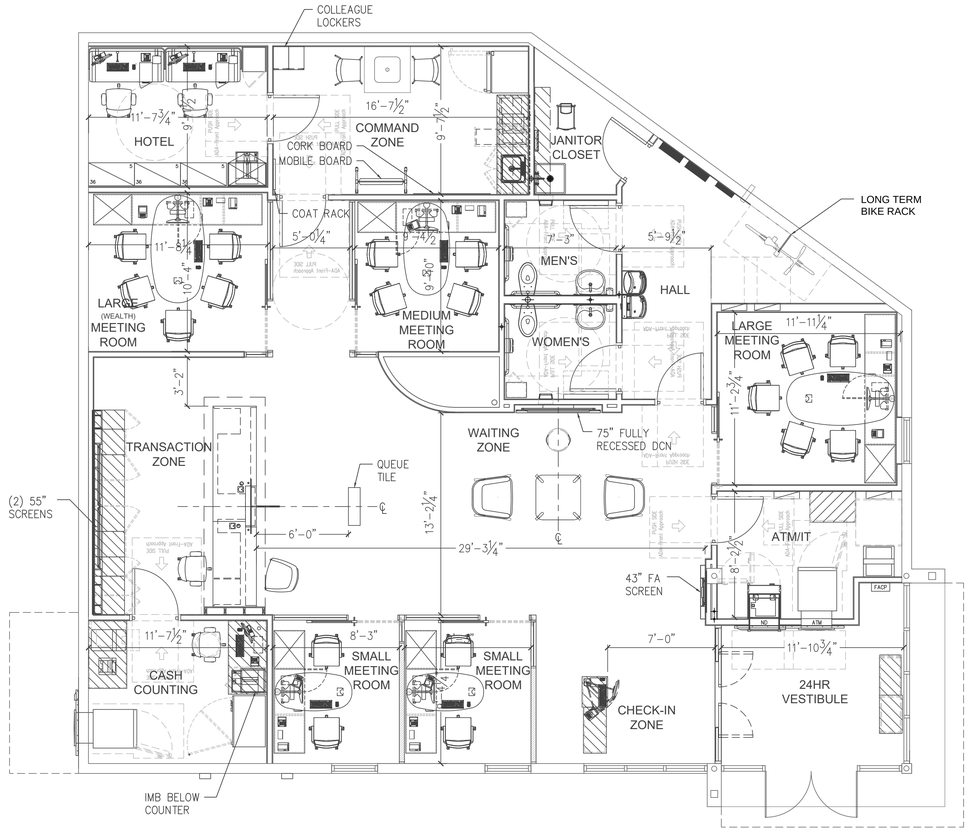
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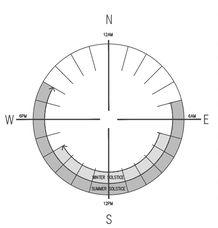
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KEYNOTES

01 XXXX.
02 XXXX.
03 XXXX.
04 XXXX.





N

0 4' 8'

CITIZENS FINANCIAL GROUP APPROVAL: _____

DATE: _____

ARCHITECTURE
INTERIOR ARCHITECTURE
SPACE PLANNING
FACILITIES MANAGEMENT
PROJECT MANAGEMENT

BISBANO + ASSOCIATES, INC.
RISING SUN MILLS | 169 VALLEY STREET | PROVIDENCE, RI | 02909
VOICE 401.404.8310 FAX 401.404.8311 WWW.BISBANO.COM

Citizens Bank®

ARLINGTON HEIGHTS

420 Massachusetts Ave
Arlington, MA
02474

PROPOSED PLAN

ISSUE TYPE: TEST FIT	REVISED:
ISSUE DATE: 01/14/2021	VER01 01/14/2021 VER02 01/18/2021 VER03 01/19/2021 VER04 02/02/2021 VER05 02/16/2021 VER06 03/05/2021
DRAWN BY: JF	
	SCALE: 1/4" = 1'-0"
	B+A PROJECT NO: 2021.XX

TF-2

BKA ARCHITECTS

MARCH 08, 2021

RE: CITIZENS BANK CORE & SHELL LEED CHECKLIST
Citizens Bank Core & Shell
1420 Massachusetts Ave, Arlington, MA
BKA PROJECT NO.: 220145

To Whom it may concern:

This narrative serves as a description of our understanding of the LEED items the above referenced project qualifies for as a core & shell scope. We have also listed the items that could possibly be obtained via, coordination through a LEED consultant and coordination with the tenant fit out scope. This narrative does not commit the developer for LEED certification and serves solely as a description of how the project could become LEED certified with extra analysis and commitment from the applicant.

Current qualifying points:

A) Categories that are intended to comply Note: list below assumes all prerequisites will be met.

1) Sensitive land protection – Site complies for option 1 as we are reusing a previously developed site. (2) points
2) Surrounding density and diverse uses Site complies for option 3 Walkable location. Walkscore.com classifies Arlington with a walkability score between 90-100 or "A walkers paradise" as per the further explanation table (5) points
3) Access to quality transit-Site complies due to proximity of several bus routes and a large bus station across the street. The bus routes served by both the Bus terminal and along Massachusetts Ave exceed the number of weekday and weekend trips (6) points
4) Site Assessment: Site complies as a site survey and assessment will be completed by the Civil engineer. (1) Point
5) Site Development Protect or Restore habitat- Majority of existing building footprint is to be restored, site to remain as-is. (2) Points
6) Open Space: To create an exterior open space that encourages interaction with the environment, social interaction, passive recreation and physical activities. (1) Point
7) Outdoor water use reduction- Site qualifies under option 1 as all vegetation does not require irrigation after plantings take root (2 Points)
8) Indoor Water use reduction: Tenant fitout to comply with a min of 25% water reduction through specification of fixtures (1) point
9) Water metering: Water meters for indoor plumbing fixtures and domestic hot water to be installed as part of tenant fit out (1) Point
10) Enhanced commissioning: Proposed systems to meet Option 1 path 1 criteria (3) Points
11) Construction and Demolition Waste Management: GC to develop construction and waste management plan (2) Points
12) Enhanced Indoor air quality strategies: Proposed scope could meet 3 strategies (1) point
13) Construction Indoor Air Quality Management Plan: GC to develop and implement an indoor air quality (IAQ) management plan for the construction and preoccupancy phases of the building. (1) Point
14) Daylight: Tenant fit out to comply with glare control device and option 2 calculations to meet min 55% of table 2 (1)Point
15) LEED Accredited professional: A LEED AP will be provided as needed. (1) Point

Possible qualifying points:

B) Categories that could comply with further analysis spec modification Note: list below assumes all prerequisites will be met.

1) Integrative process: Performance guidelines to be determine based upon further LEED analysis. (1) Point
2) High Priority Site & Equitable Development: Performance guidelines to be determine based upon further LEED analysis. (2-3) Points
3) Optimized energy performance: Performance guidelines to be determine based upon further LEED analysis. (1-18) Points
4) Advanced Energy Metering: Performance guidelines to be determine based upon further LEED analysis. (1) Point
5) Demand Response: Performance guidelines to be determine based upon further LEED analysis. (1-2) Points
6) Building Life Cycle Impact Reduction: Performance guidelines to be determine based upon further LEED analysis. (1-6) Points
7) Building product disclosure & optimization-Environmental Product declarations: Performance guidelines to be determine based upon further LEED analysis. (1-2) Points
8) Building product disclosure & optimization-Sourcing of Raw materials: Performance guidelines to be determine based upon further LEED analysis. (1-2) Points
9) Building product disclosure & optimization-Material Ingredients: Performance guidelines to be determine based upon further LEED analysis. (1-2) Points
10) Low Emitting Materials: Performance guidelines to be determine based upon further LEED analysis and review of tenants finish spec (1-3) Points
11) Innovation: Performance guidelines to be determine based upon further LEED analysis. (1-5) Points
12) Regional Priority: Performance guidelines to be determine based upon further LEED analysis. (1-4) Points
13) Green power and carbon offsets: Performance guidelines to be determine based upon further LEED analysis. (1-2) Points

Categories where qualification is not possible:

C) Categories that cannot comply with proposed scope Note: list below assumes all prerequisites will be met.

1) Bicycle Facilities : Project scope is not including separate shower/ changing facilities **(1) Point**
2) Reduced parking footprint: Tenant required parking is above requirements of this section **(1) Point**
3) Green Vehicles: No charging stations or future infrastructure of charging stations proposed. **(1) Point**
4) Rainwater management: No modification of existing site drainage proposed **(3) Points**
5) Heat Island reduction: No modification of existing paved areas proposed **(2) Points**
6) Light Pollution reduction: Existing fixtures to be reused, will not meet light trespass requirements **(1) Point**
7) Tenant Design and Construction Guidelines: Lease has been signed **(1) Point**
8) Indoor water use reduction: 25% min proposed **(5) Points**
9) Cooling Tower use: No Cooling tower proposed **(2)Points**
10) Renewable energy production: No renewable energy production equipment proposed **(2) Points**
11) Enhanced refrigerant management: No refrigerant proposed in roof top unit **(1) Point**
12) Quality views: Proposed fenestration and tenant program requirements will not allow min required of street exposure. **(1) Point**

I hope the above narrative provides details for the attached scorecard, if you have any other questions please do not hesitate to contact me. Thank you.

Very truly yours,



Douglas S, Grunert
Senior Project Manager
DSG/sep

LEED v4 for BD+C: Core and Shell
Project Checklist

Project Name: Citizens Bank Core & Shell Arlington, MA
Date: 3/8/2021

Y	?	N			
	1		Credit	Integrative Process	1

Y	?	N			
13	3	4	**Location and Transportation**		20
			Credit	LEED for Neighborhood Development Location	20
2			Credit	Sensitive Land Protection	2
	3		Credit	High Priority Site	3
5		1	Credit	Surrounding Density and Diverse Uses	6
6			Credit	Access to Quality Transit	6
		1	Credit	Bicycle Facilities	1
		1	Credit	Reduced Parking Footprint	1
		1	Credit	Green Vehicles	1
4	0	7	**Sustainable Sites**		11
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
2			Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
		3	Credit	Rainwater Management	3
		2	Credit	Heat Island Reduction	2
		1	Credit	Light Pollution Reduction	1
		1	Credit	Tenant Design and Construction Guidelines	1
4	0	7	**Water Efficiency**		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
1		5	Credit	Indoor Water Use Reduction	6
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1
3	26	4	**Energy and Atmosphere**		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
3	3		Credit	Enhanced Commissioning2	6
	18		Credit	Optimize Energy Performance	18
	1		Credit	Advanced Energy Metering	1
	2		Credit	Demand Response	2
		3	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2
2	12	0	**Materials and Resources**		14
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	6		Credit	Building Life-Cycle Impact Reduction	6
	2		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	2		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	2		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2
3	3	4	**Indoor Environmental Quality**		10
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1		1	Credit	Enhanced Indoor Air Quality Strategies	2
	3		Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1		2	Credit	Daylight	3
		1	Credit	Quality Views	1
1	5	0	**Innovation**		6
	5		Credit	Innovation	5
1			Credit	LEED Accredited Professional	1
0	4	0	**Regional Priority**		4
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1
	1		Credit	Regional Priority: Specific Credit	1

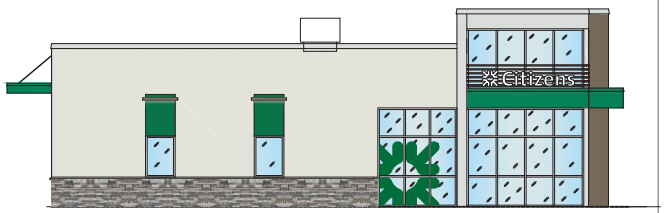
30	54	26	**TOTALS**	Possible Points:	**110**

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Citizens

SIGN SUBMITTAL PACKAGE

Arlington Heights



GENERAL NOTES & PERMIT TIMES

ELECTRICAL ACCESS

It is recommend for Electrician to put all exterior signage on a single circuit with a timer or photo-cell to allow for signs to illuminate at night only.

TABLE OF CONTENTS

PAGE	SIGN TYPE	SQ.FT.	COLOR	VARIANCE REQUIRED?	VARIANCE EXPLANATION (IF REQD.)
2	Site map				
	Massachusetts Avenue				
3	S1 - ICLL-2-18 - Illum. White channel letters	15.09	White	No	
4	S3 - ALB-1 - Green awning with light bar	-	Green	No	
11	S8 - Green window vinyl	-	Green	No	
7	S9 - DHR-2 - Door hours double doors	-	White	No	
7	S10 - DH-1 - Door handles	-	Green	No	
	Total Sign Area Requested this Elevation	15.09			
	Right Side (West) Entry Elevation				
5	S2 - ICLL-2-18 - Illum. White channel letters	15.09	White	Yes	
6	S4 - ALB-1 - Green awning with light bar	-	Green	No	
	Total Sign Area Requested this Elevation	15.09			
	Left Side (East) Drive Thru				
8	S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.	-	Green	No	
8	S6 - ATM-NGP-1 - ATM network panel	-	Gray	No	
	S7 - Removed from scope	10.5	Green	Yes	
	Total Sign Area Requested this Elevation	10.5			
	Freestanding Signage				
11	S11 - D/F Pylon Sign Reface				
12	Code Check				
	Total Sign Area Allowable	40			
	Total Sign Area Requested	40.68			
	Difference	0.68			

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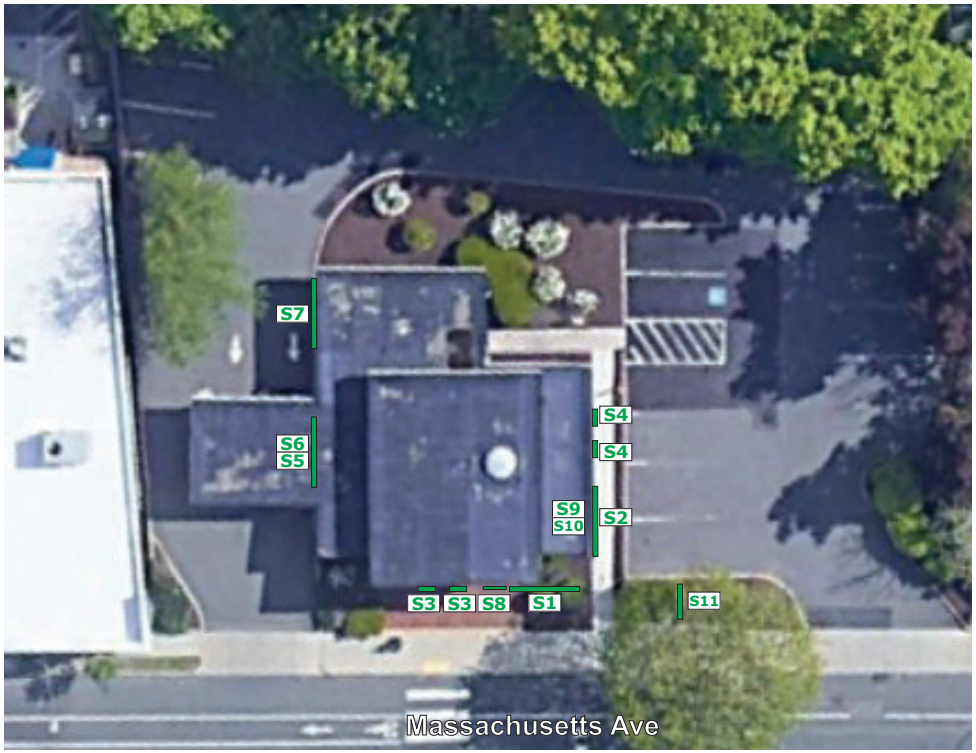
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REQUIRES VARIANCE: ☐NO ☑YES ☐TBD
BRANCH NAME & ADDRESS:
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1420 Massachusetts Avenue
Arlington, MA
DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
PATH: O:\Citizens Bank\Site Folders\Arlington Heights

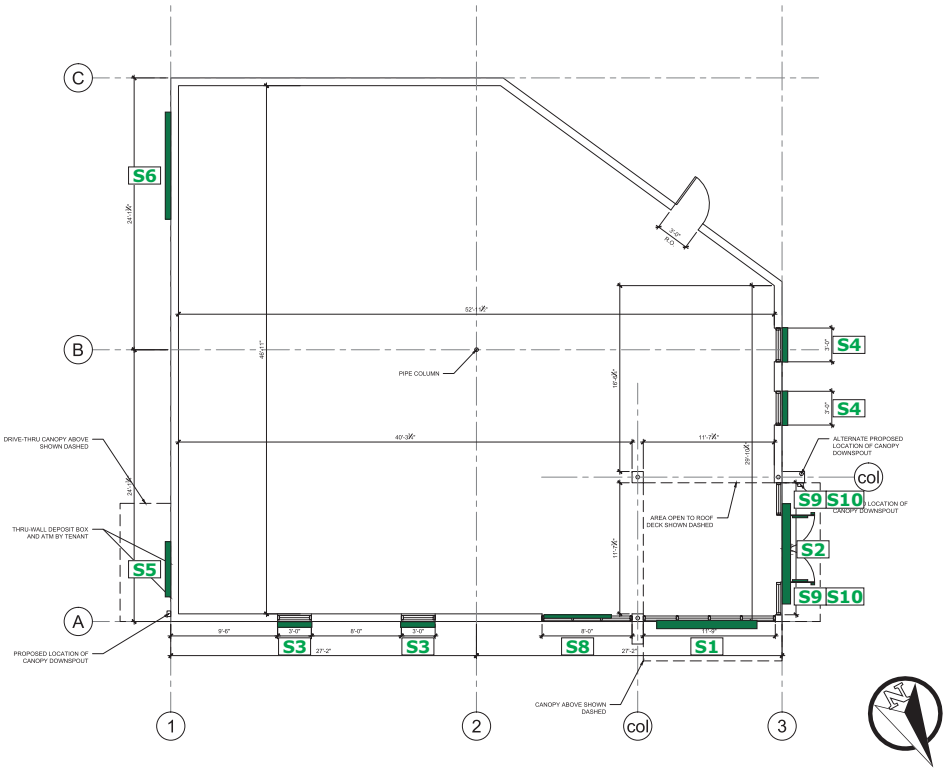
CONTACTS

PROJECT MANAGER:
Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

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PROPOSED FLOOR PLAN

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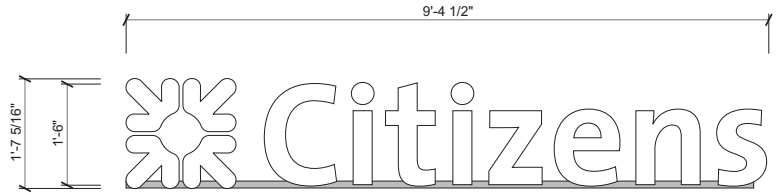
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SITE MAP

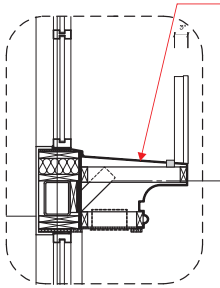
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S1 - ICLL-2-18- Channel Letters, White - illuminated, Horizontal 1’-7 5/16” OAH x 9’-4 1/2” OAW, 15.09 SF

Note: Electrical required 120v @ 3 amps required. Conduit run to sign, provided by GC.

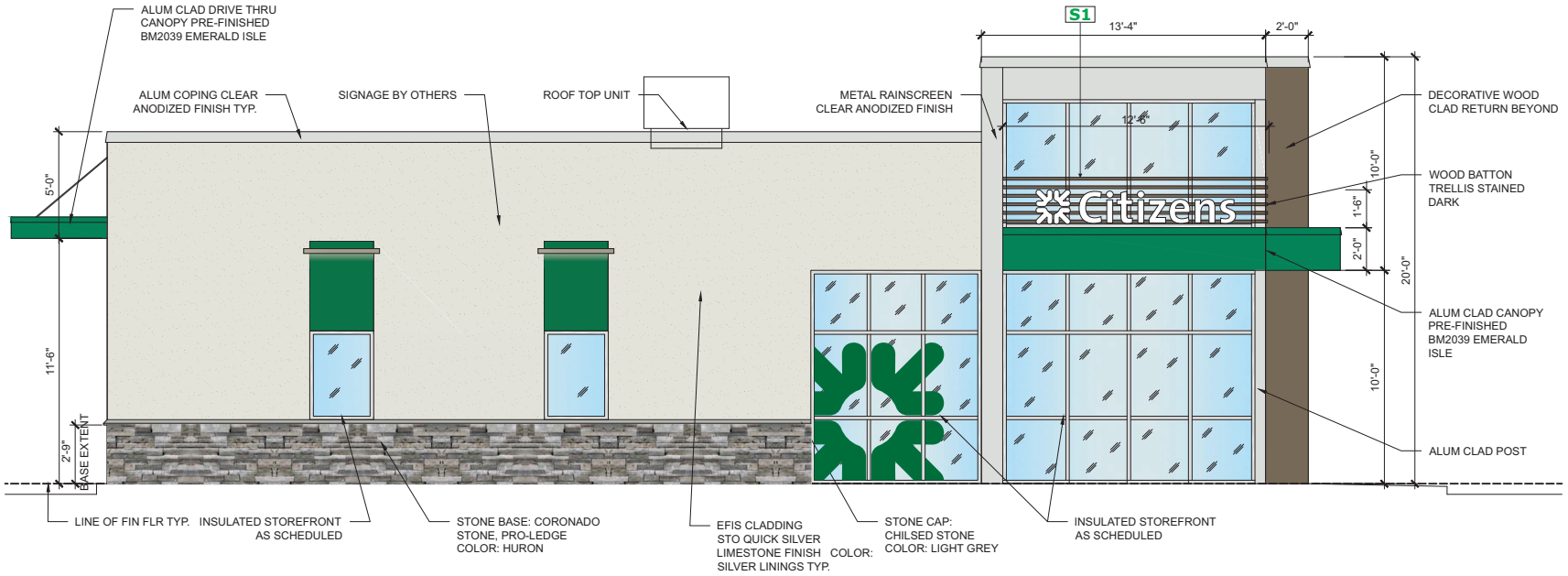


ICLL-2-18



Note: Remote electrical wiring and power source to be housed inside canopy with access panel provided - Confirmation by Architect and GC

See Architectural Detail for canopy -mounted channel letters Following page



PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

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CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

MARKET STREET

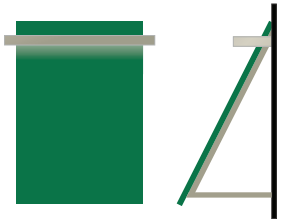
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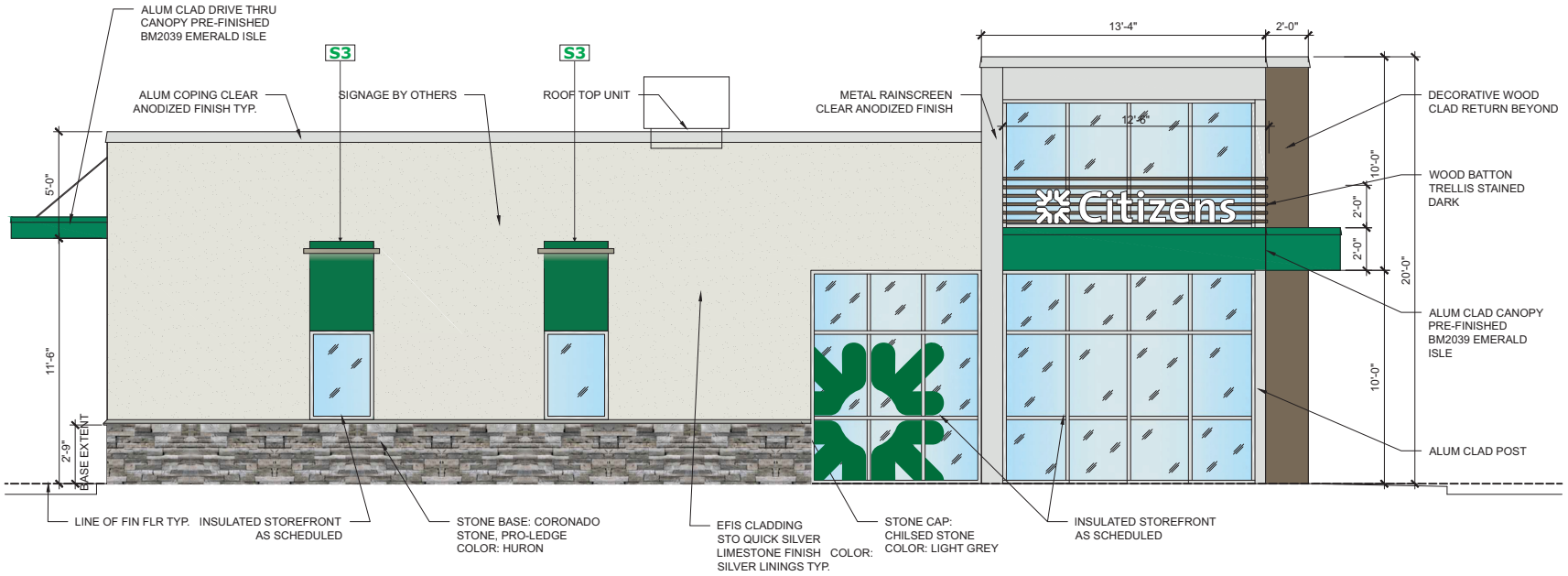
S3 - ALB-1 - Green awning with light bar

Note: Dimensions (±4'-2"H x ±3'-0"W) to be verified

Note: Electrical required 120v @ 3 amps required.

Conduit stub out required for awning light bar by GC.





PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

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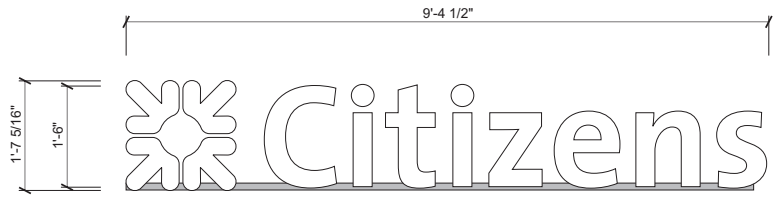
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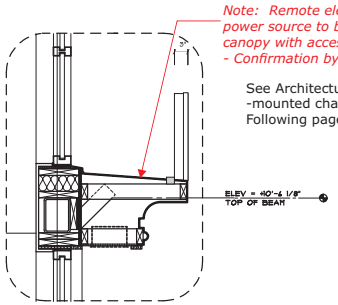
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S2 - ICLL-2-18- Channel Letters, White - illuminated, Horizontal 1’-7 5/16” OAH x 9’-4 1/2” OAW, 15.09 SF

Note: Electrical required 120v @ 3 amps required. Conduit run to sign, provided by GC.

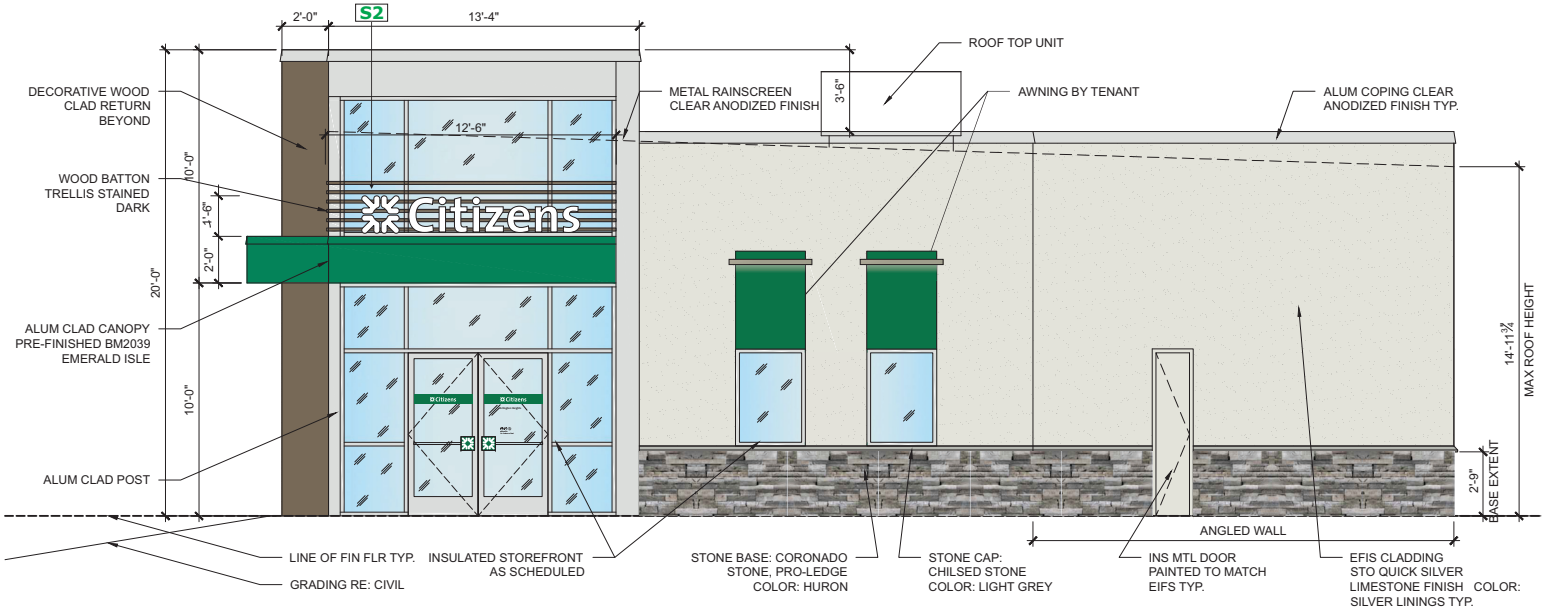


ICLL-2-18



Note: Remote electrical wiring and power source to be housed inside canopy with access panel provided - Confirmation by Architect and GC

See Architectural Detail for canopy -mounted channel letters Following page



PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

SCALE: 3/16"-1'-0"

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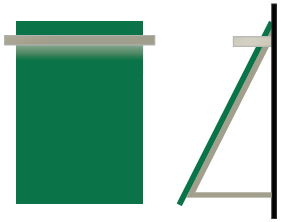
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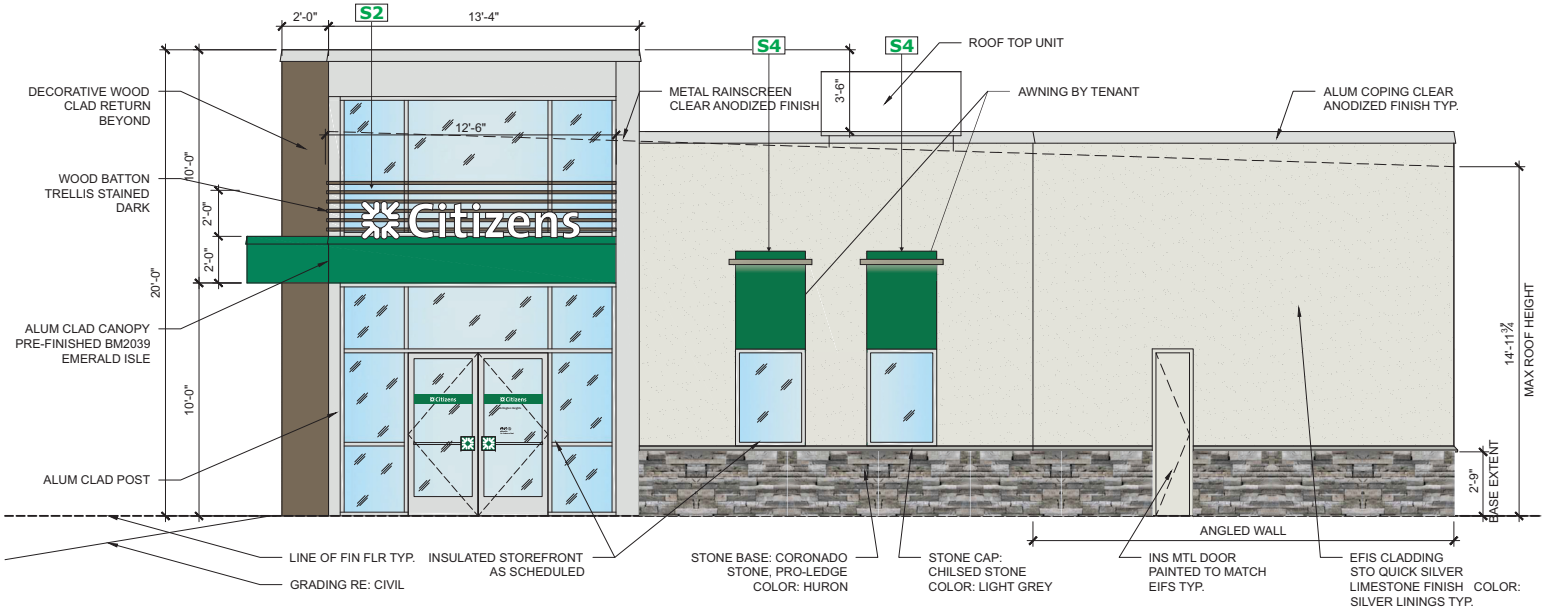
S4 - ALB-1 - Green awning with light bar

Note: Dimensions (±4'-2"H x ±3'-0"W) to be verified

Note: Electrical required 120v @ 3 amps required.

Conduit stub out required for awning light bar by GC.





PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

SCALE: 3/16"-1'-0"

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BRANCH NUMBER: R/C NUMBER:

REQUIRES VARIANCE: ☐NO ☐YES ☐TBD

BRANCH NAME & ADDRESS:
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DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021

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CITIZENS BANK PROJECT MANAGER:

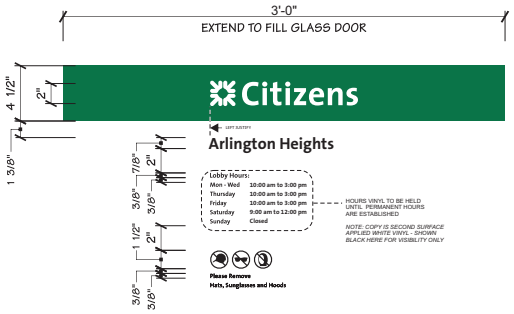
CITIZENS BANK DESIGN MANAGER:

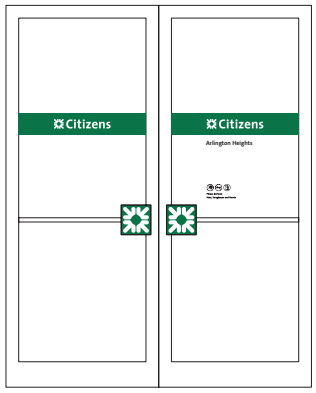
APPROVAL STAMP:

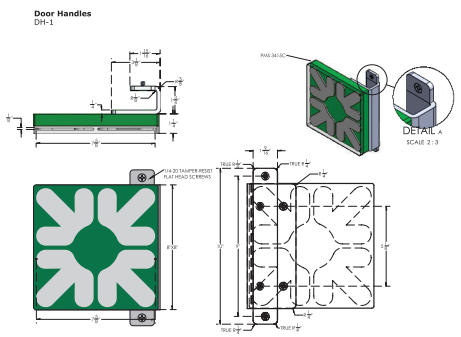
MARKET STREET

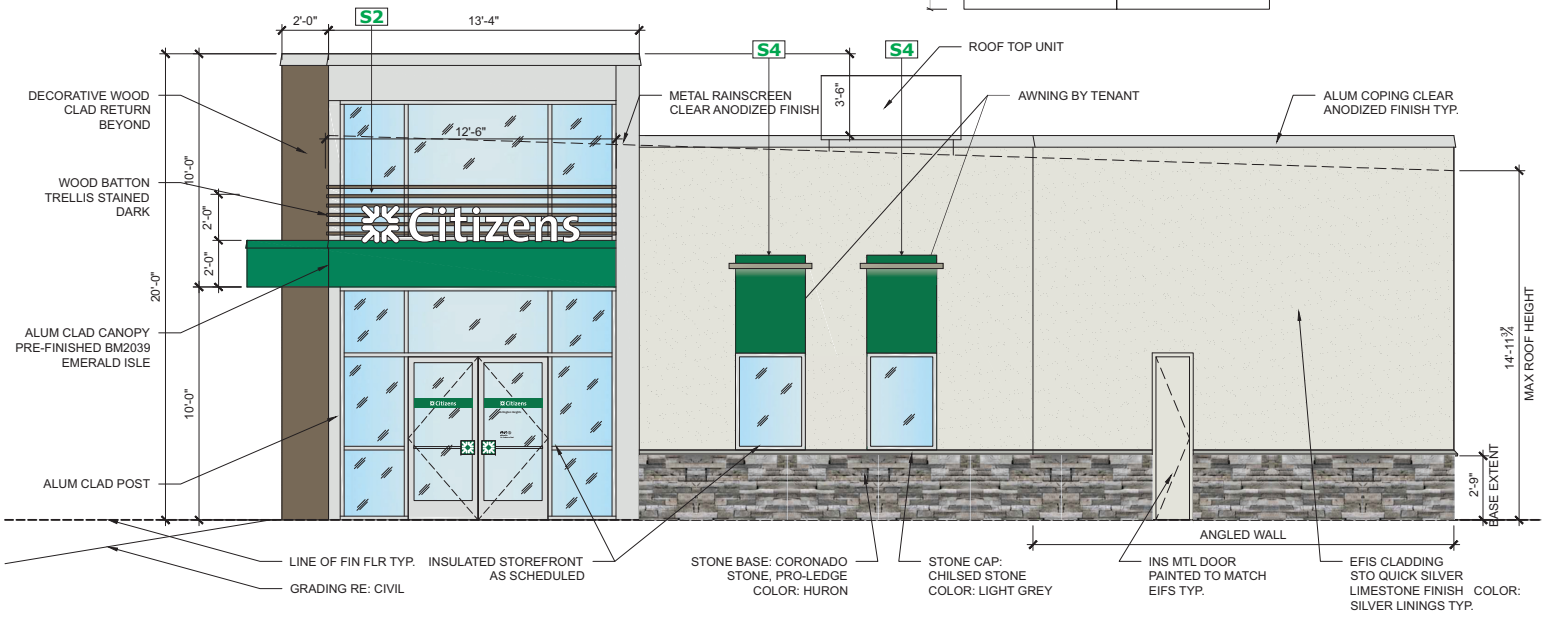
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S9 - DHR-2 - Door hours double doors
S10 - DH-1 - Door handles
Note: Lock position is under the handle.









PROPOSED RIGHT SIDE ELEVATION (HIGHLAND AVE)

SCALE: 3/16"-1'-0"

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DESIGNER: JER DATE: 1/12/2021 REV. DATE: 1/14/2021
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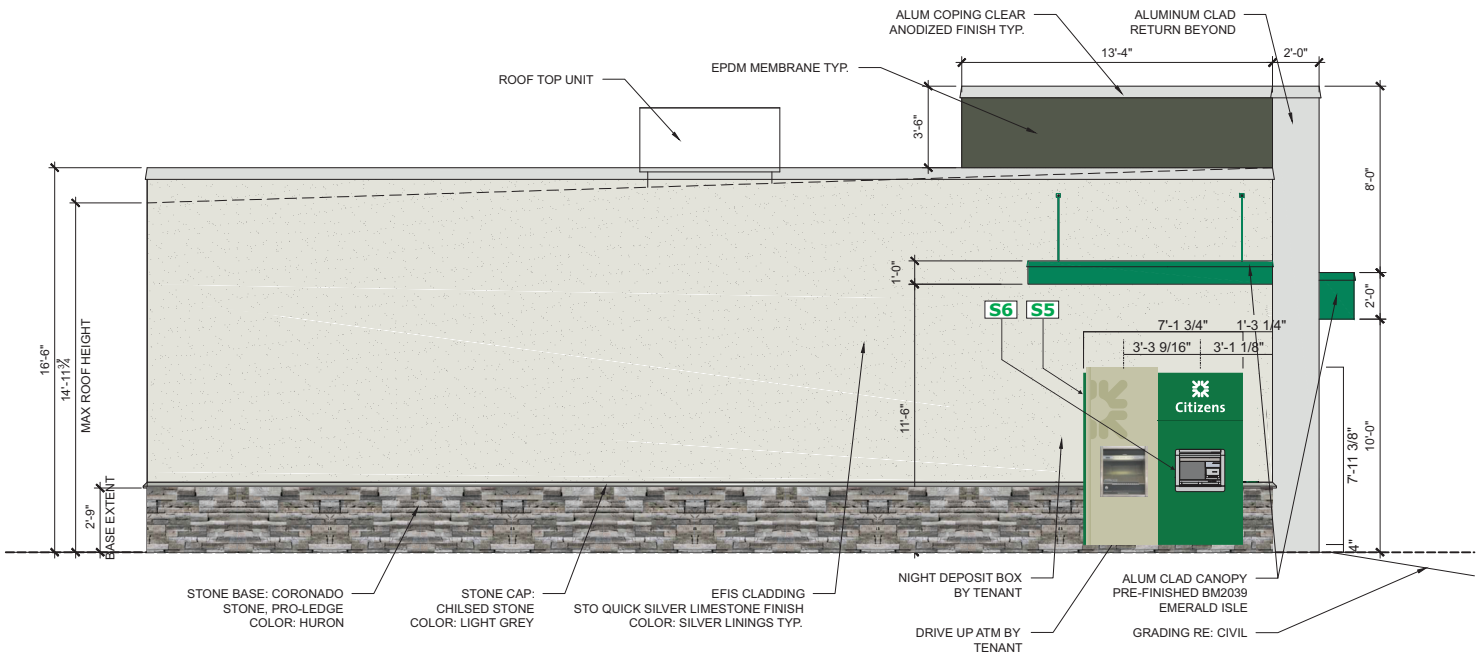
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Devin White
CITIZENS BANK PROJECT MANAGER:
CITIZENS BANK DESIGN MANAGER:

APPROVAL STAMP:

MARKET STREET

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S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.
S6 - ATM-NGP-1 - ATM network panel
Note: Dimensions and placement of ATM and Night Depository to be confirmed



PROPOSED LEFT SIDE ELEVATION (DRIVE-THRU)

SCALE: 3/16"-1'-0"

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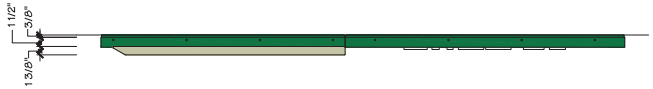
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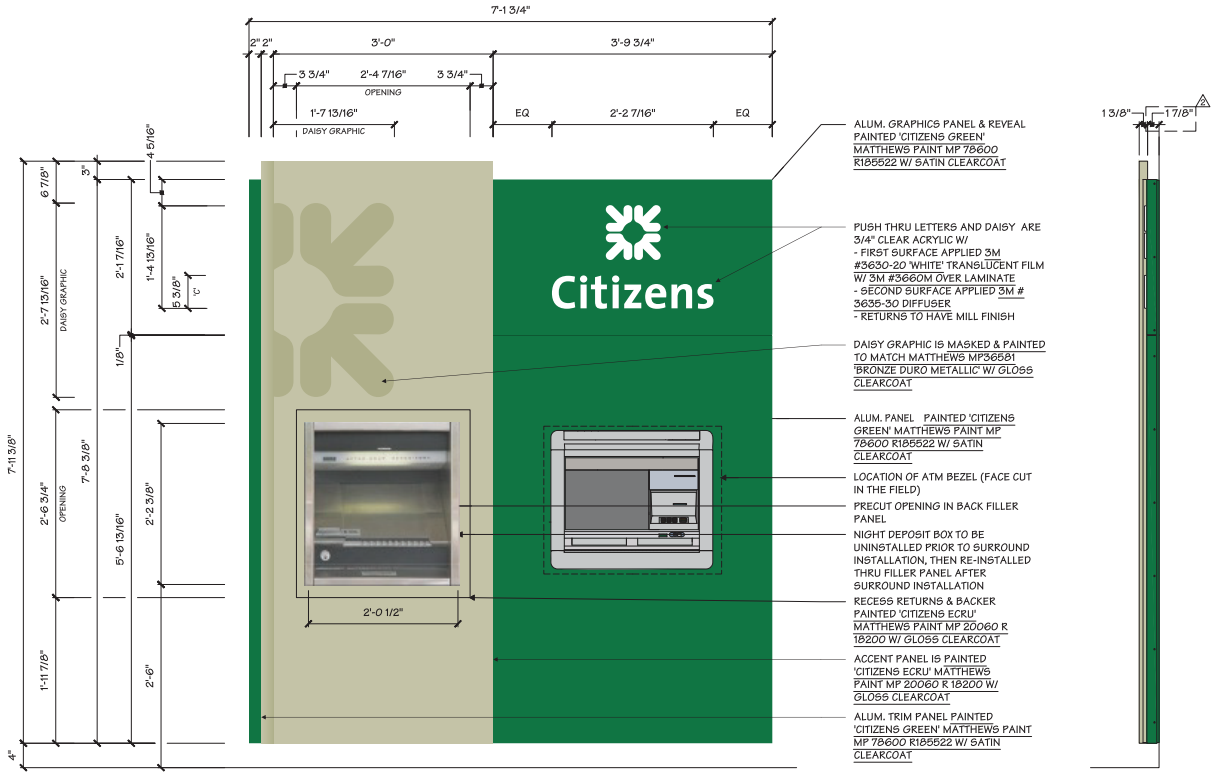
S5 - ATM-DND-1 - ATM w night drop w daisy, edge illum.
S6 - ATM-NGP-1 - ATM network panel

Note: Dimensions and placement of ATM and Night Depository to be confirmed

NOTES:
1.) CABINET INTERIOR TO BE PAINTED SPRAYLAT STAR-BRITE LIGHT ENHANCEMENT PAINT.
2.) ATM OPENING & BEZEL SHOWN ARE FOR NCR 6684 PER DESIGN INTENT DRAWINGS.



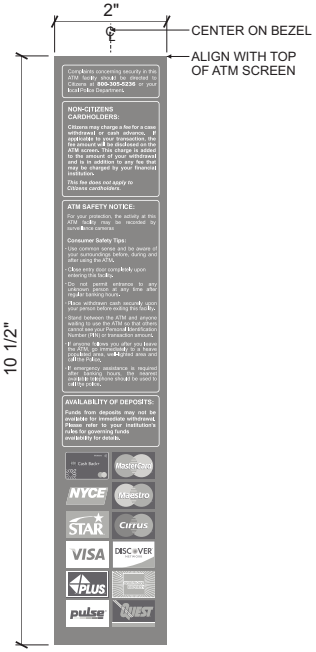
1 TOP VIEW



2 FRONT ELEVATION

3 END VIEW

Note: Artwork for Post Birch NGP-1 to be verified by CFG



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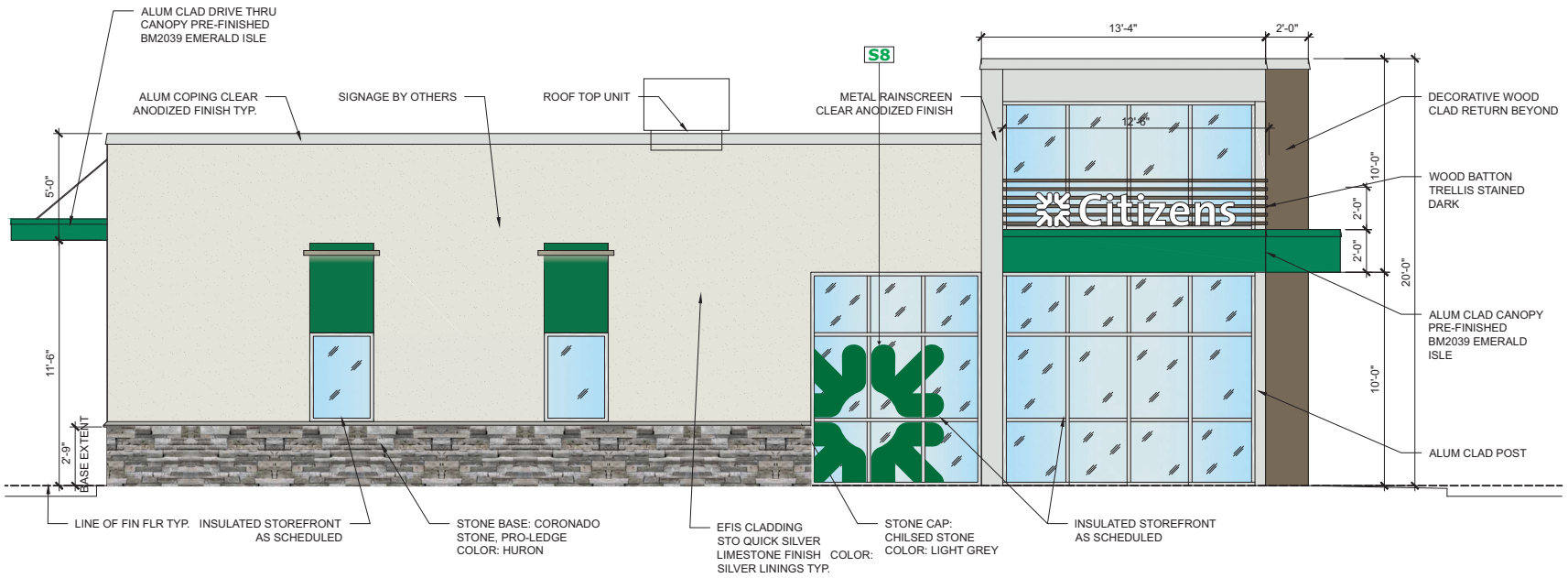
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S8 - Green window vinyl

Note: To be provided and installed by MZ



PROPOSED FRONT ELEVATION (MASSACHUSETTS AVE)

SCALE: 3/16"-1'-0"

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S11 - Reface existing double-faced Pylon Sign
Note: Reface only, Dimensions to be determined





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PRE-PERMIT SIGN INFO

Property ID: ARLINGTON -001

A.) Project Name:	Citizens Bank	DATE COMPLETED	1/11/21
B.) Street Address:	1420 Massachusetts Avenue		
C.) Town / City / State / Zip:	Arlington, MA 02476		
D.) Contact for Permit/Zoning:	Jennifer Raitt		
E.) Contact Telephone:	781-316-3090		
F.) Jurisdiction: City/Town:	Town of Arlington	Address:	730 Mass Avenue Annex
or, County of:		City, ST Zip:	Arlington, MA 02476

G.) Zoning Classification for property:	B4 Vehicular Oriented Business District.
H.) Is there a Master Sign Plan?	No MSP was found during research, there may be an MSP in place here, we strongly suggest checking with the
I.) Is a permit required?	Yes.
J.) What documents are required to file for the permit?	Application: https://www.arlingtonma.gov/home/showpublisheddocument?id=1952
K.) How long is the permit process?	3-5 weeks.
are there special reviews involved?	Not indicated during research, however the town reserves the right to request additional review(s) based on
overlay districts?	See above.
city and county review required?	See above.
design review board / ARB / DRB ?	See above.
community association review required?	See above.
L.) What are the fees for a sign permit?	https://www.arlingtonma.gov/departments/inspectional-services/applications-fees-forms/permit-fees
M.) Is engineering needed for wall signs?	May be required based on the scope of work, subject to plan review.
N.) Does engineering require a PE stamp?	See above.
O.) Is landlord approval required?	Yes.
P.) Legal Description Required for permit?	Yes.
Q.) Plat/Site Plan required for permit?	Yes.

ATTACHED SIGNS & WINDOW GRAPHICS

1.) Formula for calculating wall sign square footage (Max. Sq. Footage - Primary & **Wall signs: Maximum 40 sq. ft. per business.**

2.) Sq.Ft allowance for bldg. sides/rear:

The total sign area for signs on single-tenant or multi-tenant buildings may be placed on any building elevation, subject to the following standards:

(1) At least 1 sign must be placed above or associated with the building entry;

(2) The width of the sign shall be no greater than 60% of the width of the building element on which it is displayed;

(3) Signs shall be placed at least 12 inches or 20% of the width of the building element on which they are mounted, whichever is less, from the sides of the building element;

(4) Signs shall be placed at least 12 inches or 20% of the height of the building element on which they are mounted, whichever is less, from the top and bottom edge of the building element; and

(5) Signs shall be placed no higher than the lowest of the following:

a. 25 ft. above grade;

b. The bottom of the sill of the first level of windows above the first story; or

c. The cornice line of the building at the building line.

3.) How is the sign area calculated?

Signs on Background Panel: Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.

Signs with Individual Letters: Sign copy mounted as individual letters or graphics against a wall, fascia, mansard, or parapet of a building or surface of another structure, that has not been painted, textured or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the total sign.

Signs on Illuminated Surfaces: Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.

Irregular Shaped Signs: Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.

Two face signs: If the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces.

4.) Total # Wall Signs allowed per building elevation:	Wall signs: Maximum 1 per frontage.
5.) What is the max letter/character height allowed?	Signs shall be placed no higher than the lowest of the following:
6.) Does the ordinance restrict color, design or illumination?	Illumination: Non-illuminated, internally illuminated, or externally illuminated. See
7.) Does window vinyl need to be permitted, if so how much is allowed?	Combined area of permanent and temporary window signs must not exceed
8.) Is the entire graphic calculated or just the company logo and name?	Entire graphic area.

FREESTANDING SIGNS

1.) Formula for calculating freestanding sign sq. footage (Max Sq Footage- Primary & Secondary signs):
Monument signs: Maximum 24 sq. ft. The name of a property is included in the area and height limits for freestanding signs.

2.) # F/S Signs allowed:	Monument signs: Maximum 1 per frontage.	Internal illumination allowed:	Monument signs: Non-illuminated or
3.) Height Maximum:	Monument signs: Maximum 8 feet to the	Clearance from grade to sign:	Must be monument signs.

4.) Set-back of sign from right-of-way or property line:

Monument signs: Minimum 5 feet setback from property line.

Signs may not be placed on property at any corner formed by intersecting streets, within the triangular area formed between the property lines and a diagonal line joining points on the property lines 25 feet from the point of their intersection, or in the case of rounded property line corners, the triangular area between the tangents to the curve at such corner and a diagonal line joining points on the tangents 25 feet from the point of their intersection.

DIRECTIONAL SIGNS

5.) Number Allowed:	Wall sign directional/driveway: Max 3 per lot.	Maximum Square Footage:	Wall sign directional/driveway: Max. 3 sq. ft. per
6.) Illumination Allowed?	Wall sign directional/driveway: Non-illuminated	Maximum Height:	Wall sign directional/driveway: Mounting height-
7.) Permit Required?:	Wall sign directional/driveway: Sign permit	Customer Logo Allowed:	Not stipulated by code, subject to plan review.

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TEMPORARY BANNERS

1.)	What temporary sign types are allowed?	Allowed Sign Types: A-Frame or Upright Signs; Yard Sign Type I, II, and III; Wall Banners; and Window
2.)	What is the max sign size area?	Max. 24 sq. ft. per business; excludes the area of temporary wall banner signs and window signs.
3.)	How is the sign area calculated?	

Signs on Background Panel: Sign copy mounted, affixed, or painted on a background panel or surface distinctively painted, textured, or constructed as a background for the sign copy, is measured as that area contained within the sum of the smallest rectangle(s) that will enclose both the sign copy and the background.
Signs with Individual Letters: Sign copy mounted as individual letters or graphics against a wall, fascia, mansard, or parapet of a building or surface of another structure, that has not been painted, textured or otherwise altered to provide a distinctive background for the sign copy, is measured as a sum of the smallest rectangle(s) that will enclose each word and each graphic in the total sign.
Signs on Illuminated Surfaces: Sign copy mounted, affixed, or painted on an illuminated surface or illuminated element of a building or structure, is measured as the entire illuminated surface or illuminated element, which contains sign copy. Such elements may include lit canopy fascia signs, and/or interior lit awnings.
Irregular Shaped Signs: Sign area for irregular shaped signs is determined by dividing the sign into squares, rectangles, triangles, circles, arcs, or other shapes the area of which is easily calculated.
Two face signs: If the interior angle between the two sign faces is 45 degrees or less and the sign faces are less than 42 inches apart, the sign area is determined by the measurement of one sign face only. If the angle between the two sign faces is greater than 45 degrees, the sign area is the sum of the areas of the two sign faces.

4.)	Are logos factored into sign area?	Yes.
5.)	How many signs per elevation?	Number of Signs: Unlimited, except that the total sign area must not exceed 24 sq. ft. per business.
6.)	How long can signs be up?	A temporary sign permit for a wall banner is valid for 60 days beginning with the date of issuance.
7.)	Does the ordinance restrict color, design or illumination?	

A temporary sign permit is required for the display of temporary wall banner signs. Portable and temporary signs are not counted toward the total allowable sign area or number of permanent signs. Sign placement must not create a hazard for pedestrian or vehicular traffic and must allow for a 4-foot wide sidewalk to comply with the Americans with Disabilities Act.
Signs must be of sufficient weight and durability to withstand wind gusts, storms, etc., for the safety of pedestrians, bicyclists, and vehicles.
Prohibited Elements: Illumination, including flashing, blinking, or rotating lights; animation; reflective materials; and attachments, including balloons, ribbons, loudspeakers, etc.
Temporary wall banner: Signs must be mounted on a building wall or on T-posts or stakes installed 6 inches or less from the wall.

VARIANCE INFORMATION

1.)	Variance cost?	$400.00 and up.
2.)	Variance time frame?	2-5 months.
3.)	Variance document deadline?	One month prior to meeting.
4.)	Variance meeting dates?	https://www.arlingtonma.gov/town-governance/boards-and-committees/zoning-board-of-appeals/zba-
5.)	Variance documents required?	https://www.arlingtonma.gov/home/showpublisheddocument?id=24805
6.)	How many sets?	7 sets.
7.)	Likelihood of variance approval?	35%

DOCUMENTS REQUIRED FOR PERMITS

Scaled Plot plan	☑	☑ Building elevations	☑ Elevation Drawings	Electrical Permit ☑
Installation drawings	☑	☑ Legal description	☐ Sealed engineering drawings	Notice of Commencement ☐
Sign drawings	☑	☑ Photo of existing	☑ Property Manager's Approval	

Sign Code: https://www.arlingtonma.gov/home/showpublisheddocument?id=43413

Note: If the Building Inspector determines that a separate electrical or structural permit is required, the applicant shall be notified. The sign permit shall not be issued until all other required permits have been obtained.

Prohibited signs: 1. Bandit signs,
2. Cabinet signs, and
3. Electronic message centers or electronic displays.

Signs with the following display features are prohibited:
1. Animated features which rotate, move, or give the appearance of moving by mechanical, wind, or other means.
2. Lighting devices with intermittent, flashing, rotating, blinking or strobe light illumination, animation, motion picture, or laser or motion picture projection, or any lighting effect creating the illusion of motion, as well as laser or hologram lights.
3. Internally illuminated signs with a directly exposed light source, except for neon incorporated into the design of a permanent window sign.
4. Surfaces that reflect light by means of a glossy, polished, or mirrored surface.

Numerals and letters up to 2 square feet in area used to identify an address are not included in the determination of sign area.

All allowed permanent signs may be non-illuminated, illuminated by internal light fixtures, halo illuminated, or illuminated by external indirect illumination, unless otherwise specified. All temporary signs must be nonilluminated.
1. No sign shall be illuminated between 12:00 AM and 6:00 AM, except signs identifying emergency services such as police and ambulance stations or hospitals and signs on premises open for business during that time.
2. Internally Illuminated Signs:
a. Internally illuminated signs include signs constructed with pan channel letters, preferably without raceways, or internal/indirect halo illuminated channel letters on an unlit or otherwise indistinguishable background on a freestanding sign or building wall.
b. Single-color LED signs are considered internally illuminated signs.
3. Externally Illuminated Signs. Externally illuminated signs must be illuminated only with steady, stationary, fully-shielded light sources directed solely onto the sign without causing glare. The light source for externally illuminated signs must be arranged and shielded to substantially confine all direct light rays to the sign face and away from streets and adjacent properties.
4. Direct illumination is limited to marquee signs; see Section 6.2.5(C)(6) and is limited to the illumination of letters, numbers, symbols and accents on the marquee sign. Exposed lamps may only be animated to create an effect of patterned illusionary movement provided the alternate or sequential activation of the illuminated elements occurs on a cycle that exceeds two seconds.

Neon or single-color LED signs placed in a window count toward the aggregate area for all window signs and must not exceed 25 percent of the area of the window. Any individual neon or single-color LED sign must not exceed four square feet in area. Other uses of neon are prohibited.

Structure and Installation: (1) Any angle iron, bracing, guy wires, or similar features used to support a sign must not be visible to the extent technically feasible.
(2) Where electrical service is provided to freestanding signs or building mounted signs, the service must be placed underground and concealed. Electrical service to building mounted signs, including conduit, housings, and wire, must be concealed or, when necessary, painted to match the surface of the structure upon which they are mounted. A building permit shall be issued prior to installation of any new signs requiring electrical service.
(3) Raceway cabinets shall only be used in building mounted signs when access to the wall behind the sign is not feasible, shall not extend in width and height beyond the area of the sign, and shall match the color of the building to which it is attached. Where a raceway cabinet provides a contrast background to sign copy, the colored area is counted in the total allowable sign area allowed for the site or business. A raceway cabinet is not a cabinet sign.
(4) All permanent signs allowed by this Section must be constructed of durable materials capable of withstanding continuous exposure to the elements and the conditions of a built-up environment and must be permanently attached to the ground, a building or another structure by direct attachment to a rigid wall, frame, or structure.

Monument signs: Landscaping- A landscaped area consisting of shrubs, and/or perennial ground cover plants with a max. spacing of 3 ft. on center is required around the base of the signs. The landscape area must be a min. of 2 sq. ft. for each 1 sq. ft. of sign area.

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LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Citizens Bank Redevelopment - 1420 Mass Ave
Date: 11-Feb-21

Y	?	N			
			Credit	Integrative Process	1

0	0	0	Location and Transportation		16
			Credit	LEED for Neighborhood Development Location	16
			Credit	Sensitive Land Protection	1
Y			Credit	High Priority Site	2
Y			Credit	Surrounding Density and Diverse Uses	5
Y			Credit	Access to Quality Transit	5
Y			Credit	Bicycle Facilities	1
			Credit	Reduced Parking Footprint	1
			Credit	Green Vehicles	1

0	0	0	Sustainable Sites		10
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Credit	Site Assessment	1
Y			Credit	Site Development - Protect or Restore Habitat	2
Y			Credit	Open Space	1
	?		Credit	Rainwater Management	3
	?		Credit	Heat Island Reduction	2
	?		Credit	Light Pollution Reduction	1

0	0	0	Water Efficiency		11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
			Credit	Outdoor Water Use Reduction	2
			Credit	Indoor Water Use Reduction	6
			Credit	Cooling Tower Water Use	2
Y			Credit	Water Metering	1

0	0	0	Energy and Atmosphere		33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
	?		Credit	Enhanced Commissioning	6
	?		Credit	Optimize Energy Performance	18
			Credit	Advanced Energy Metering	1
			Credit	Demand Response	2
			Credit	Renewable Energy Production	3
			Credit	Enhanced Refrigerant Management	1
			Credit	Green Power and Carbon Offsets	2

0	0	0	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	?		Credit	Building Life-Cycle Impact Reduction	5
	?		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	?		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	?		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
	?		Credit	Construction and Demolition Waste Management	2

0	0	0	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Low-Emitting Materials	3
			Credit	Construction Indoor Air Quality Management Plan	1
			Credit	Indoor Air Quality Assessment	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
	?		Credit	Daylight	3
			Credit	Quality Views	1
			Credit	Acoustic Performance	1

0	0	0	Innovation		6
			Credit	Innovation	5
Y			Credit	LEED Accredited Professional	1

0	0	0	Regional Priority		4
	?		Credit	Regional Priority: Specific Credit	1
	?		Credit	Regional Priority: Specific Credit	1
	?		Credit	Regional Priority: Specific Credit	1
	?		Credit	Regional Priority: Specific Credit	1

19	46	0	TOTALS	Possible Points: 110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110



Town of Arlington, Massachusetts

23 Maple Street - Memorandum of Understanding

Summary:

6:40 p.m. 23 Maple Street - Memorandum of Understanding between Town of Arlington (Department of Public Works, Department of Inspectional Services, and Department of Information Technology) and Arlington Redevelopment Board

Board members will review MOU and authorize Director to proceed with tenancy

ATTACHMENTS:

	Type	File Name	Description
🗋	Reference Material	Agenda_Item_2_-_Draft_MOU_between_ARB_and_DPW_et_al.docx	Draft MOU between ARB and DPW et al

MEMORANDUM OF UNDERSTANDING
BY AND BETWEEN

THE TOWN OF ARLINGTON REDEVELOMENT BOARD,
THE TOWN OF ARLINGTON DEPARTMENT OF PUBLIC WORKS,
THE TOWN OF ARLINGTON INSPECTIONAL SERVICES DEPARTMENT, AND
THE TOWN OF ARLINGTON DEPARTMENT OF INFORMATION TECHNOLOGY

This MEMORANDUM OF UNDERSTANDING ("MOU") is made this _____ day of March, 2021, by and between the Town of Arlington's Redevelopment Board ("Redevelopment Board"), the Town of Arlington's Department of Public Works ("DPW"), the Town of Arlington's Inspectional Services Department ("Inspectional Services"), and the Town of Arlington's Department of Information Technology ("IT Department"). The Redevelopment Board, DPW, Inspectional Services and IT Department may hereafter be referred to as "Party" or "Parties."

WHEREAS, the property located at 23 Maple Street ("the property") is owned and managed by the Redevelopment Board; and

WHEREAS, certain employees from the DPW's Engineering Division, Inspectional Services and IT Department will begin use of the property on or about April 1, 2021 for their regular and customary work as employees of the Town of Arlington; and

WHEREAS, the parties seek to set forth the parameters for their use of the property for official Town of Arlington business so that any impact on the neighborhood and its residents will be minimized;

WHERAS, an "ordinary work day" shall be defined as a Monday, Tuesday, Wednesday, Thursday or Friday between the hours of 8:30 A.M. and 5:00 P.M;

NOW THEREFORE, in consideration of the mutual covenants and conditions hereinafter contained, the parties hereto hereby agree as follows:

SECTION 1. ORDINARY WORK DAY USE OF 23 MAPLE STREET BY TOWN OF ARLINGTON EMPLOYEES.

A. Beginning on or about April 1, 2021, the property will be used by certain Town of Arlington employees from the IT Department, Inspectional Services and the DPW's Engineering Division.

B. The use of the property by Town of Arlington employees shall occur as follows:

(1) Town of Arlington Inspectional Services employees shall occupy the first floor of the property for their regular and customary work. It is expected that the number of Town of Arlington Inspectional Services employees

working at the property during an ordinary work day will be approximately eight (8) employees.

(2) Town of Arlington DPW Engineering Division employees shall occupy the second floor of the property for their regular and customary work. It is expected that the number of Town of Arlington DPW Engineering Division employees working at the property during an ordinary work day will be approximately six (6) employees.

(3) Town of Arlington IT Department employees shall occupy the third floor of the property for their regular and customary work. It is expected that the number of Town of Arlington IT Department employees working at the property during a work day will be approximately four (4) employees.

C. It is understood and agreed by the parties that employees from the IT Department, Inspectional Services and the DPW's Engineering Division may need to access and use the property on occasions outside the defined "ordinary work day" hours for their work as Town of Arlington employees and that such access and use of the property is permitted.

D. All parties agree that use of the property shall at all times be considerate of neighbors of the property and use of the property will comply with any applicable noise ordinance and idling restrictions contained in the Town of Arlington By-Laws.

E. Pursuant to Town of Arlington Bylaw Title V Section 4, smoking is hereby prohibited in the Town Arlington in accordance with M.G.L. Ch. 270, §22 (commonly known as the "Smoke-free Workplace Law). Pursuant to M.G.L. Ch. 270, §22(j) no person shall smoke in the area within twenty (20) feet of an entranceway accessible to the public at any municipal building, childcare facility or health care institution, except that this shall not apply to a smoker transiting through such 20-foot area.

SECTION 2. PARKING OF TOWN OWNED OR TOWN EMPLOYEE VEHICLES.

A. The parties agree and understand that there are a limited number of parking spaces available for use by Town of Arlington employees from the IT Department, Inspectional Services and the DPW's Engineering Division while they use the property located at 23 Maple Street for their regular and customary work. Specifically, there a total of six (6) parking spots located at 23 Maple Street and an additional eleven (11) parking spots available for use by the Parties in the parking lot behind the Verizon building located at 67 Pleasant Street, on the corner of Maple Street and Pleasant Street in Arlington.

B. The six (6) parking spots located at 23 Maple Street and shown on the attached plan shall be marked and designated for use during an ordinary work day as follows:

(1) Three (3) such spots shall be marked and designated for use by Town of Arlington Inspectional Services employees;

(2) Two (2) such spots shall be marked and designated for use by Town of Arlington DPW Engineering Division Employees; and

(3) One (1) such spot shall be marked and designated for use by Town of Arlington IT Department employees.

C. The eleven (11) parking spots available for use by the Parties in the parking lot behind the Verizon building located at 67 Pleasant Street, on the corner of Maple Street and Pleasant Street in Arlington shall be marked and designated for use during ordinary work day hours as follows:

(1) Five (5) such spots shall be marked and designated for use by Town of Arlington Inspectional Services employees;

(2) Four (4) such spots shall be marked and designated for use by Town of Arlington DPW Engineering Division Employees; and

(3) Two (2) such spot shall be marked and designated for use by Town of Arlington IT Department employees.

SECTION 3. PARKING OF PRIVATE VEHICLES FOR THE PURPOSE OF CONDUCTING BUSINESS WITH TOWN DEPARTMENTS LOCATED AT 23 MAPLE STREET.

A. The two (2) parking spaces located on Maple Street directly in front of the subject property located at 23 Maple Street shall be marked and designated as "23 Maple Street - Business Only" for use during the ordinary work day hours as defined in this agreement. Parking in the two (2) "23 Maple Street - Business Only" spots shall be designated by appropriate signage and such parking shall be limited to a maximum of thirty (30) minutes by any individual vehicle.

B. Any vehicle parked in a "23 Maple Street - Business Only" parking spot must have its engine turned off. Idling while in a "23 Maple Street - Business Only" parking spot is prohibited.

C. Parking in the two (2) designated "23 Maple Street - Business Only" spots on days and times outside of the ordinary work day hours as defined in this agreement shall be open to usual and ordinary residential parking.

SECTION 4. MODIFICATIONS TO PROPERTY AND SIGNAGE

No tenant shall make any interior modifications to the property, parking layout, usage, or affix any signage to the building without express review by the Director of Planning and Community Development and, in the case of signage or any requests for exterior modifications, review and approval by the Arlington Historic Districts Commission.

SECTION 5. TERM OF MEMORANDUM OF UNDERSTANDING

This MOU shall take effect on or about April 1, 2021 and shall run for a period of eighteen (18) months during construction of the DPW building campus. This MOU may be extended by mutual agreement of the Parties.

SECTION 5. AMENDMENTS

Thus MOU may be modified or amended only in writing duly executed by all Parties. It may not be amended or modified by oral agreements between the parties unless they are in writing duly executed by the Parties.

SECTION 6. ENTIRE AGREEMENT

This MOU constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements, understandings, expectations, negotiations, and discussions of the parties, whether oral or written. There are no representations by either party which are not specifically set forth in this agreement.

SECTION 7. COUNTERPARTS

This agreement shall be executed in duplicate counterparts, each of which shall be deemed an original and both of which shall constitute one and the same instrument.

SECTION 8. SEVERABILITY

If any provision of this MOU is held to be unenforceable, invalid or illegal, such provision shall be deemed severable from the MOU and the remainder of the MOU shall remain fully valid and enforceable.

SECTION 9. GOVERNING LAW

This MOU shall be governed and construed in accordance with the laws of the Commonwealth of Massachusetts.

SECTION 10. AUTHORITY TO EXECUTE AGREEMENT

The parties to this MOU represent and warrant that each has the right, power and authority to execute this MOU.

IN WITNESS WHEREOF, the Parties hereto, through duly authorized representatives have executed this MOU.

ARLINGTON REDEVELOPMENT BOARD:

By: _____ _____
Rachel Zsembery, Chair Date

ARLINGTON DEPARTMENT OF PUBLIC WORKS:

By: _____ _____
Michael Rademacher, Director Date

ARLINGTON INSPECTIONAL SERVICES DEPARTMENT:

By: _____ _____
Michael Byrne, Director Date

ARLINGTON DEPARTMENT OF INFORMATION TECHNOLOGY:

By: _____ _____
Dan Sheehan, Acting Director Date

Zoning Warrant Article Public Hearings

Summary:

7:00 p.m.

ARTICLE 45
ZONING BYLAW AMENDMENT/ TO INCREASE THE PERCENTAGE OF AFFORDABLE HOUSING UNITS

To see if the Town will vote to amend Section 8.2.3A of the Zoning Bylaw to increase the percentage of affordable housing units required in any development subject to Section 8.2 of the Zoning Bylaw from 15% to a percentage between 25 and 30%; or take any action related thereto.
(Inserted at the request of John Sanbonmatsu, Laura Kiesel, and 10 registered voters)

ARTICLE 41
ZONING BYLAW AMENDMENT/DEFINITION OF FOUNDATION

To see if the Town will vote to amend the Zoning Bylaw in Section 2, by adding a new definition as follows: Building Foundation: The masonry or concrete structure in the ground which supports the building. It does not include porches, decks, sheds, patios, one story attached garages, carports, or the like; or take any action related thereto.
(Inserted at the request of Patricia B. Worden and 10 registered voters)

ARTICLE 38
ZONING BYLAW AMENDMENT/ ENERGY EFFICIENT HOMES ON NONCONFORMING LOTS

To see if the Town will vote to amend the Zoning Bylaw to allow new construction of energy efficient foundations and homes on nonconforming lots in the R0, R1, and R2 Districts that meet certain energy efficiency industry standards; or take any action related thereto.
(Inserted at the request of the Redevelopment Board)

ARTICLE 43
ZONING BYLAW AMENDMENT/ ARTICLE TO PROPOSE THE ADOPTION OF ACCESSORY DWELLING UNITS (ADUs)

To see if the Town will vote to the purpose of this article is to see if the Town will amend the Zoning Bylaw to allow Accessory Dwelling Units (ADUs) on the property of single family, two-family, and duplex dwellings; or take any action related thereto.
(Inserted at the request of Barbara Thornton and 10 registered voters)
** Please note that this Zoning Bylaw Amendment is subject to M.G.L. c 40A Section 5 such that this zoning bylaw may be enacted by a simple majority vote, rather than the 2/3 supermajority that applies to other zoning amendments. **

ARTICLE 42
ZONING BYLAW AMENDMENT/ AFFORDABLE HOUSING ON PRIVATELY OWNED PARCELS
OF "NON-CONFORMING" SIZE

To see if the Town will vote to allow the development of new sources of permanently affordable housing (affordable in perpetuity and affordability as defined in Arlington Zoning By-Laws) by modifying the requirements for constructing housing units to enable construction on smaller lots as long as those units are permanently committed to be available for rental or ownership according to official regional guidelines (see (Zoning Bylaw Section 2, Basic Provisions,

Definitions Associated with Affordable Housing) of affordability.
Such construction would be permissible in all zoning districts allowing residential use, providing the tracts were laid out prior to July 1, 2019, and receive a special permit from the ZBA. Ownership, sale, repurchase and rentals of each property would be overseen by the Arlington Housing Trust Fund or a comparable entity that would have the authority to enforce the affordability guidelines in perpetuity; or take any action related thereto.
(Inserted at the request of Barbara Thornton and 10 registered voters)

A brief introductory presentation will be provided for each article

Board members and members of the public will be provided time to ask questions and comment for each article

ATTACHMENTS:

Type	File Name	Description
Reference Material	Agenda_Item_3_-_Memo_to_ARB_from_DPCD_re_Warrant_Articles_45__41__38__43__42_.docx	Memo to ARB from DPCD re Warrant Articles 45, 41, 38, 43, 42
Reference Material	Article_41_-_Materials_from_Petitioner.pdf	Article 41 - Materials from Petitioner
Reference Material	Article_42_-_Materials_from_Petitioner.pdf	Article 42 - Materials from Petitioner
Reference Material	Article_43_-_Materials_from_Petitioner.pdf	Article 43 - Materials from Petitioner
Reference Material	Article_43_-_Petitioner_FAQ.pdf	Article 43 - Petitioner FAQ
Reference Material	Article_43_-_Petitioner_Presentation.pdf	Article 43 - Petitioner Presentation
Reference Material	Article_45_-_Petitioner_FAQ.pdf	Article 45 - Petitioner FAQ
Reference Material	Article_45_-_Petitioner_Presentation.pdf	Article 45 - Petitioner Presentation
Reference Material	Article_45_-_Supporting_Articles_from_Petitioner.pdf	Article 45 - Supporting Articles from Petitioner

TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

17MEMORANDUM

To: Arlington Redevelopment Board

From: Jennifer Raitt, Director, Planning and Community Development
Erin Zwirko, Assistant Director, Planning and Community Development
Kelly Lynema, Senior Planner, Planning and Community Development

Date: March 11, 2021

RE: Review of Warrant Articles 38, 41, 42, 43, and 45 for 2021 Annual Town Meeting

Staff reviewed the following Warrant Articles to provide the Board with information for further consideration as part of the public hearing and review process. There are five articles with public hearings for the evening of March 15th. This memo provides information about each article being reviewed, including any additional information provided by the petitioner, and additional factors for the Board's consideration.

A Note about the Cumulative Effect of Town Meeting Articles

There are 17 zoning and non-zoning Town Meeting Warrant Articles that are related to or may have an impact on housing production and development. During the March 15th hearing the Redevelopment Board will learn about four articles that are directly related to housing production and a fifth article that is tangentially related. The staff have considered the cumulative effect of all these articles on housing production and general development in Arlington. It is our opinion that the cumulative effect could have a deleterious impact on new development in Arlington.

The Redevelopment Board adopted, and Town Meeting endorsed the Master Plan in 2015 which guides land use and development policy. The Redevelopment Board and the Select Board adopted the existing Housing Production Plan (HPP) in 2016, which laid out housing needs and demand, the development constraints, capacity, and opportunities, and an implementation plan consisting of housing goals and strategies to achieve them. The Housing Production Plan (HPP) update will be underway very soon. The broad engagement envisioned as part of that process would enable the community to have wide ranging conversations about what housing production in Arlington might look like, how it could be implemented, and where it should be focused in the community. The zoning and non-zoning Warrant Articles, which all have good intentions, represent a piecemeal and uncoordinated approach to creating and preserving housing for all present and future community members. The HPP update is intended to provide a coordinated and engaged approach to a community-supported plan for housing production for all income levels and all types of households.

Terminology

Regarding terminology, the phrase "affordable housing" is used in many different contexts. Deed restricted affordable housing is often referred to as "Capital A" affordable housing, meaning that a process has established the characteristics of an eligible household and has determined the housing cost

at no more than 30 percent of a household's monthly income. When used in this memo, we are referencing affordable housing which conforms to Section 8.2 of the Zoning Bylaw, titled Affordable Housing Requirements, which is housing in conformance with M.G.L. Chapter 40B. This Section of the Zoning Bylaw outlines specific requirements that relate to affordable housing units, including regulatory agreements and deed restrictions. The Regulatory Agreement outlines the eligibility thresholds, housing costs, and ongoing monitoring by the Town and other agencies. In many cases, the deed restriction requires that the unit remains affordable in perpetuity. Affordable housing as discussed here is subject to Affirmative Fair Housing and Marketing Plans which ensure broad outreach to populations in need of housing and to remove barriers to housing opportunity.

For reference, many inclusionary bylaws and ordinances are frequently aimed to provide housing options for households earning up to 80% of the area median income (AMI). Currently, for a family of four, HUD has determined that to be $96,250 for the Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area. Section 8.2 of the Zoning Bylaw has a little more nuance and differentiates between rental and ownership projects. For rental units, an eligible household is one where the household members earn up to 70% AMI, yet the rent is calculated on 60% AMI. For the lottery held last summer for the two-bedroom unit at 483 Summer Street, which attracted over 170 applicants, an eligible household of four could earn up to $89,530 and the monthly rent was set at $1,232. For homeownership units, the Zoning Bylaw identifies eligible households are those where the household members earn up to 80% AMI, but the sale price is calculated on 70% AMI. While the sale price depends on the unique property being sold, the down payment and interest rates, and the community it is in, a purchase price in the low $300,000s would be set for an eligible household of four earning up to $96,250.

The other type of affordable housing often reference in public discourse is "little a" affordable housing. This often references those homes that may be priced below market, but which do not have any deed restrictions or other protections for tenants and are not subject to affirmative fair housing and marketing requirements. What is affordable to one household may not be affordable to another. Without additional information, it is hard to determine who may find a unit affordable. In 2020, Arlington had one of the region's highest median single-family home prices at $860,000[1] and an average market rent of approximately $1,730[2]. In 2020, only 22 homes, all condominiums, sold for less than $350,000 based on data from the Assessor's Office.

[1] Banker and Tradesman for calendar year 2020
[2] 2015-2019 American Community Survey

A Warrant Article to amend the Zoning Bylaw has been submitted by John Sanbonmatsu, Laura Kiesel, and 10 registered voters:

Article 45 **ZONING BYLAW AMENDMENT/ TO INCREASE THE PERCENTAGE OF AFFORDABLE HOUSING UNITS**

To see if the Town will vote to amend Section 8.2.3A of the Zoning Bylaw to increase the percentage of affordable housing units required in any development subject to Section 8.2 of the Zoning Bylaw from 15% to a percentage between 25 and 30%; or take any action related thereto.

(Inserted at the request of John Sanbonmatsu, Laura Kiesel, and 10 registered voters)

- **Arlington's current affordable housing requirements** – Section 8.2 of the Zoning Bylaw sets forth the affordable housing requirements for residential development in Arlington. Adopted by a vote of Town Meeting in 2001, the bylaw requires that 15% of any new residential development of six or more units (which is subject to Section 3.4, Environmental Design Review) must be affordable to households earning 70% or 80% of Area Median Income (AMI) for rental units and ownership units, respectively.[3] Housing units created through this measure must be affordable in perpetuity, built on site, and integrated into the development. To incentivize developers to build affordable units, the bylaw allows for reduced parking requirements. Since 2001, the bylaw has resulted in the development of 59 affordable housing units.

  Arlington's affordable housing requirement is on par with that of our peer communities. Staff reviewed the affordability requirements in 14 communities in the greater Boston region, and found that most inclusionary provisions are based on a 10 to 15% set-aside of affordable housing units.[4] In 2005, an empirical study of the outcome of inclusionary zoning policies found that only minimal production of affordable housing had taken place because of those policies.[5] In the intervening 15 years, many communities have sought to improve affordable housing production through expansion of their approach to inclusionary zoning; one common approach is through defining specific districts or an overlay zone such as a smart growth district, mixed use district, affordable housing overlay, or downtown district. In these types of districts, municipalities often require higher percentages of affordable housing (17.5-20%, and sometimes up to 25%), although they couple these requirements with greater incentives such as height or FAR bonuses, parking reductions, or reductions of the number of affordable units required if the new units are pegged to households earning a lower percentage of AMI.

  Actual production of affordable housing that has resulted exclusively from these provisions has varied. In municipalities with high rates of housing production overall, such as in Somerville or Cambridge, greater production of affordable housing has occurred. Conversely, municipalities with lower rates of housing production or high inclusionary housing requirements, affordable

[3] The Zoning Bylaw identifies eligible households at 70% and 80% for rental and ownership opportunities, respectively. The rent or purchase price is set at 60% to 70%, respectively, to create "breathing room" for the eligible households.

[4] Belmont (10-15%), Brookline (15%), Cambridge (20%), Medford (10-15%), Melrose (15%), Milton (10%), Natick (15-20%), Needham (10-12.5%), North Andover (20-25%), Reading (10-25%), Somerville (20%), Stoneham (n/a), Watertown (12.5-15%), and Winchester (10%). Typically, in communities with ranges the lower number is for smaller residential developments (6-12 units) and the higher number reflects requirements for larger developments (20+ units) or developments in specific districts.

[5] Dain, Amy. 2005. Residential Land Use Regulation in Massachusetts: a study of 187 communities. Accessed at http://www.masshousingregulations.com/pdf/land_use_regulation.pdf

housing production has been minimal. Overall, the region continues to suffer from an inadequate supply of housing affordable to households earning a low or moderate income.

- **A regional dynamic –** Developers take a regional perspective when considering where to construct housing. When given the option to develop housing in municipalities with extensive and lengthy review process by multiple boards or to do so in a community that offers an expedient review process, a developer will choose the latter. Similarly, developers will choose to build housing in a municipality requiring a lower percentage of affordable housing units unless a suitable incentive that offsets the cost of developing those units is offered in exchange.[6] Finally, if the process of securing a building permit is onerous, or the regulations placed on developments too financially restrictive, it can be potentially more practical for a developer to apply for a permit through the Comprehensive Permit Process (Chapter 40B) than through local inclusionary zoning provisions.

- **Affordable housing requirements and incentives –** As suggested above, there is a need to carefully balance the proportion of new development required to be affordable with incentives in order for municipalities to achieve actual gains in its total supply of affordable housing. In a 2016 memo addressing affordable housing, Somerville Director of Planning George Proakis noted the calculus involved in determining regulations that would be both appropriate for the community and would result in new units of affordable housing:

  > "Comprehensive inclusionary ordinances are more complicated than a single percentage of required units. The inclusionary ordinance works like a set of dials and switches, each one controlling a separate factor. These factors include: the percentage of required units, whether they are on-site, if bonuses are provided, what the income requirements are, what interior finishes are required, the size of the living units, what other factors might impact affordability (landscape, parking, design, application fees, permitting etc.), and what number of units triggers inclusionary zoning."[7]

  He went on to note the factors to be considered, such as deciding how difficult a community wants to make development, and therefore development of affordable units, in the first place by requiring special permits and significantly restricting the size of projects.

  The petitioner seeks to raise Arlington's affordable housing requirement for developments of six or more units from 15% to 25% without any corresponding changes to the incentive structure. At the Town's current requirements, we expect five market rate units to cover the subsidy for the remaining affordable unit in a six-unit development. Under the proposed amendment we would expect four market rate units to cover the subsidy. This is a significant change, and one that economic analysts for other communities have suggested could discourage private investment, particularly for smaller multi-unit projects.[8]

  For Arlington, where the inclusion of affordable housing for developments of six or more units is already mandatory, the appropriate balance between incentives and requirements must be

[6] See the discussion of Article 40 in the DPCD 2/25/2021 memorandum to the Arlington Redevelopment Board *Review of Warrant Articles 28, 29, 30, 31, 32, 33, 34, 39, and 40 for 2021 Annual Town Meeting* for a discussion of the costs and funding sources that go into the development of affordable housing.
[7] Proakis, George. 2/18/2016. *An ordinance amending the Somerville Zoning Ordinance Sections 13.2, 1.3.3, 13.3.7, 13.3.4, 13.4.1, 13.5, 13.6.2, & 13.6.3, to address affordable housing in the City*, pg. 10. Available at: https://www.somervillema.gov/sites/default/files/inclusionary-housing-staff-report-draft-2-18-2016.pdf
[8] Ibid. See outline of RKG Associates key findings on page 16.

sought. If a pro forma for a project does not balance out, the affordable housing requirement, special permit requirements, and other conditions can undermine a development or lead a developer to choose to build something sufficiently small to not require the development of affordable units. If developing affordable housing through inclusionary zoning is overly restrictive, it may be more practical for a developer to apply for a permit through the Comprehensive Permit process (Chapter 40B) than through local inclusionary zoning provisions, or not work in Arlington at all as there are significant costs (time and money) to pursue a Comprehensive Permit.

In short, Arlington's affordable housing requirements need to provide meaningful benefits and incentives to offset developers' revenue losses. A threshold set too high, especially when accompanied by an extensive review and permitting process, may actually incentivize developers to build elsewhere.

- **Consistency with the Master Plan and Housing Production Plan –** Both the Master Plan and Housing Production Plan encourage the creation of more affordable housing, which benefits the community and helps meet local housing needs. This Article partially addresses the Housing Production Plan's Strategy 4 to amend inclusionary zoning by suggesting an increase to the percentage of development required to be affordable. However, it does not address the other components of strategy 4—reconsidering types of incentives that should accompany such an increase and considering what percent of AMI the additional requirements should be pegged to—and therefore represents an incomplete approach to the challenge of encouraging the development of affordable housing.

  As described in the preface to this memorandum, the Town is commencing an update to the Housing Production Plan. A significant component of this planning process will be to understand the community's goals for developing affordable housing and researching how the Town's existing strategies can be enhanced to best reach those goals. DPCD looks forward to looking holistically at a coordinated set of strategies for updating key components of the Town's affordable housing requirements.

Amend SECTION 8.2.3.A.:

A. In any development subject to this Section 8.2, ~~15%~~25% of the dwelling units shall be affordable units as defined in Section 2 of this Bylaw. For purposes of this Section 8.2, each room for renter occupancy in a single-room occupancy building shall be deemed a dwelling unit. In determining the total number of affordable units required, calculations of a fractional unit of 0.5 or more shall be rounded up to the next whole number.

A Warrant Article to amend the Zoning Bylaw has been refiled by the Redevelopment Board on behalf of Patricia B. Worden and 10 registered voters:

Article 41 ZONING BYLAW AMENDMENT/ DEFINITION OF FOUNDATION

To see if the Town will vote to amend the Zoning Bylaw in Section 2, by adding a new definition as follows: Building Foundation: The masonry or concrete structure in the ground which supports the building. It does not include porches, decks, sheds, patios, one story attached garages, carports, or the like; or take any action related thereto.

(Inserted at the request of the Redevelopment Board on behalf of Patricia B. Worden and 10 registered voters)

Mrs. Worden's proposed amendment has been carried over after deferral from 2020 Annual Town Meeting. Mrs. Worden provided commentary with her supporting information, which is attached with the agenda.

The staff provides the following additional considerations relevant to this article:

- **Oversimplification of Construction Terminology:** Section 2 (Definitions) of the Zoning Bylaw defers to the State Building Code for "terms and words not defined herein but defined in the State Building Code. Words not defined in either place shall have the meaning given in the most recent edition of Webster's Unabridged Dictionary."[9] The Massachusetts State Building Code – 780 CMR does not have a single definition for foundations, but rather devotes an entire chapter to this building component. This is due to the complex and multifactored conditions that require variations in regulations instead of a single blanket definition. The dictionary defines a foundation as "an underlying base or support."

  Staff consulted with the Inspectional Services Department (ISD) to clarify how foundations are considered. Per ISD, the building code does not have a single definition for foundations because in the construction industry there are many types of foundations that vary in their structure and design. The 2015 International Building Code breaks down foundations into two categories. The first category is shallow foundations which include individual or strip footings, mat foundations, slab-on-grade foundations or a similar foundation element. The second category is deep foundations, which includes all other foundation elements that do not satisfy the definition of a shallow foundation. Examples of deep foundations would be piers and piles. Additionally, the 2015 International Building Code allows building officials to approve other types of deep foundations.

  Across Arlington's varied topography, some structures sit on masonry or concrete footings, while other structures perch on granite slab; in other areas with steep slopes garages sit upon a foundation but underneath the principal structure. The varied land conditions in Arlington require both a broader understanding of foundations and more nuanced application of foundation regulations than the proposed definition allows. Maintaining the Zoning Bylaw's deference to the building code on such matters upholds the intent of the building code, which is to govern the physical features of a building, primarily around safety and accessibility.

- **Local precedent:** Staff reviewed the zoning bylaws and ordinances for 14 peer municipalities in Massachusetts.[10] In general, municipalities refrain from cross referencing building code

[9] Town of Arlington Zoning Bylaw, Section 2 (Definitions), page 2-1.

[10] Belmont, Brookline, Cambridge, Medford, Melrose, Milton, Natick, Needham, North Andover, Reading, Somerville, Stoneham, Watertown, and Winchester.

definitions in their zoning regulations. None of these municipalities provides a definition of a foundation in their zoning bylaws or ordinances, and most explicitly defer to the State Building Code and then the dictionary for industry-specific terminology.

- **Conflicts with Massachusetts General Laws:** Massachusetts General Laws c.40A §3 expressly states, "no zoning ordinance or by-law shall regulate or restrict the use of materials, or methods of construction regulated by the state building code". By limiting the definition of foundation to masonry or concrete, the proposed definition places unwarranted restriction on the use of materials. The warrant article text specifies masonry or concrete, yet the main motion below expands the scope of materials to be used for a foundation, perhaps acknowledging this limitation in MGL C.40A.

Amend SECTION 2:

Building Foundation: The entity supporting the building and constructed of masonry or concrete or other material of appropriate industry standards for such purpose, whether insulated or non-insulated. It does not include porches, decks, attached storage facilities which are not part of the original structure, patios, one story attached private garages (except in the case of a single story building), carports, any accessory structure or the like.

A Warrant Article to amend the Zoning Bylaw has been submitted by the Redevelopment Board:

Article 38 **ZONING BYLAW AMENDMENT/ ENERGY EFFICIENT HOMES ON NONCONFORMING LOTS**

To see if the Town will vote to amend the Zoning Bylaw to allow new construction of energy efficient foundations and homes on nonconforming lots in the R0, R1, and R2 Districts that meet certain energy efficiency industry standards; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

The Clean Energy Future Committee presented this amendment to the Redevelopment Board in early January for consideration. The Redevelopment Board agreed to submit the warrant article. The staff provides the following additional considerations relevant to this article:

- **Implementation of the Net Zero Plan –** The Net Zero Plan was recently adopted by the Clean Energy Future Committee. The Net Zero Plan will guide Arlington to net zero greenhouse gas pollution by 2050. The Net Zero Plan states: "Existing Arlington bylaws at times create various barriers to, and/or do not encourage, renovating or constructing net zero energy buildings. For example, high efficiency buildings require insulated foundations[11] but approximately 30-40% of Arlington's lower-density residential lots[12] are considered 'non-conforming' and the zoning bylaws do not allow foundations to be removed and replaced on those lots."

- **Scope of Amendment –** This Article seeks to address the issue identified by the Net Zero Plan by establishing industry standards as thresholds and a reasonable process to address the limitations of the existing Zoning Bylaw for residential structures in the R0, R1, and R2 Zoning Districts. The amendment will only affect existing residential structures in those zoning districts. It does not enable the creation of new non-conforming lots. It does not enable new home construction where an existing principal structure does not already exist.

  Property owners who seek to reconstruct their home and foundation to the identified industry standards are allowed to reconstruct the foundation if the parcel has at least 5,000 square feet. If the property owner wants to include an addition of up to 750 square feet, the home and foundation can be reconstructed. If the property owner wants to include an addition of 750 square feet or more, the property owner will still need a special permit from the ZBA in accordance with Section 5.4.2.B(6) on Large Additions. A special permit is also needed if the lot has less than 5,000 square feet and there is an existing structure.

  The Clean Energy Future Committee noted that the amendment makes Arlington property owners of non-conforming lots equally eligible as property owners of conforming lots for certain federal and state incentives and tax credits that are only available to those who build high efficiency homes.

- **Potential Effect of Amendment –** DPCD worked with the Town's Director of GIS/Systems Analysist to analyze parcels in the R0, R1, and R2 zoning districts to understand the scope and potential effect of this article. The Town's GIS was used to calculate and compile attributes of all

[11] For example, Passive House construction requires foundations or slabs to have an insulating R-value between 30 and 50 which can typically only be achieved with new foundations that are insulated from the exterior and from below. In addition, an existing foundation may not have sufficient structural integrity to support a new energy efficient building that may be heavier.

[12] The 30-40% estimate applies to the approximately 92% of residential lots in Arlington that are in Zones R0, R1 and R2 (approximately 11,000 of the approximately 12,000 total residential lots in town are in Zones R0-R2).

parcels in R0, R1, and R2 zoning districts. This was accomplished by merging the Town's GIS parcel layer with a point layer containing frontage and lot size. The point layer containing frontage and lot size does not exist for every parcel in Town. In instances when data was absent, the frontage and/or lot size was calculated using GIS analysis tools. In addition, the Assessor's database was merged to include zoning district and 0-Lots designations.

Several queries were run to select and categorize each parcel in the R0, R1, and R2 zoning districts. Based on the output from these queries, parcels were categorized as disqualified, potentially exempt, non-conforming, or nonconforming. It should be noted that all parcels identified by the Assessor as 0-Lots, i.e. vacant lots, were omitted from the results. Definitions of each category are provided below:

- Disqualified: A parcel was disqualified from the analysis if it completely lacks street frontage or if it has a 0-Lot address. Of the 11,675 parcels in the R0, R1, and R2 Zoning Districts, 11,273 are qualifying parcels and 402 (3.4%) parcels were disqualified.
- Potentially Exempt[13]: In the R0 district, parcels identified as potentially exempt have a frontage between 50 and 75 feet and a parcel size of 5,000 square feet or more, or parcels that have a frontage of 50 feet or greater and a parcel size between 5,000 and 9,000 square feet. In the R1 and R2 district, parcels identified as potentially exempt have a frontage between 50 and 60 feet and a parcel size of 5,000 square feet or more, or parcels that have a frontage of 50 feet or greater and a parcel size between 5,000 and 6,000 square feet.
- Nonconforming: In any of the three zoning districts, parcels identified as nonconforming have a frontage of less than 50 feet or a parcel size less than 5,000 square feet.
- Conforming: Parcels identified as conforming meet the minimum frontage and lot size set forth in the zoning bylaw (75-foot frontage and 9,000 square foot lot size for R0, 60-foot frontage and 6,000 square foot lot size for R1 and R2).

As shown in the table below, within the R0, R1, and R2 zoning districts, 47% of all qualifying parcels conform to the minimum frontage and parcel area in the Zoning Bylaw. Nearly 31% of all qualifying parcels are nonconforming with the dimensions outlined in the query, and 16.1% are considered exempt. Note that the proportion of conforming parcels within an individual zoning district varies significantly based on the zoning district: more than 82% of all R0 parcels are conforming, while only 22% of R2 parcels are conforming.

District	Total Qualifying Parcels	Potentially Exempt	Nonconforming	Conforming	Disqualified[14]
R0	516	83	9	424	38
R1	7,157	1,460	1,641	4,056	313
R2	3,600	1,296	1,511	793	56
Total	11,273	2,839 (25.2%)	3,161 (28%)	5,273 (46.8%)	402

Ultimately, structures can be demolished to foundation on any of these parcels through existing processes. This article allows existing and future community members to rebuild foundations and their homes while achieving certain energy efficiency industry standards that help the Town reach our net zero goals.

[13] Parcels meeting the thresholds as defined in this category are nonconforming unless they meet the exceptions described in Section 5.4.2 (B)(1) of the Zoning Bylaw. The specific dates by which a parcel was issued deed or on which a principal structure was constructed were not available for this analysis.
[14] Tallies of disqualified parcels were not included in overall percentages.

- **Relationship to Article 41 –** Article 41 seeks to add a definition for foundation to the Zoning Bylaw. The interaction between Article 41 and this article is relative to the limits of a foundation. Depending on how foundation is defined and what might be excluded, the additional square footage of the excluded features of a home that provide interior space may cause more energy efficient homes to need to pursue a special permit for a Large Addition.

- **Consistency with the Master Plan and Housing Production Plan –** The Master Plan and Housing Production Plan discuss energy efficiency in different ways than the Net Zero Plan. In both documents, concern is expressed over the efficiency of older housing units in town as well as Town buildings and facilities. The documents do not contemplate the goal of this article to reduce greenhouse gas pollution in Arlington.

Amend SECTION 5.4.2.B(4):

(4) Front Yard Minimum Lot Width Requirements and Exceptions. The minimum front yard lot width shall be 50 feet at all points between the front lot line and the nearest building wall, except that such minimum front yard lot width shall not apply to (i) any lot excepted under Section **Error! Reference source not found.**(B)(1) or **Error! Reference source not found.**(B)(2) or 5.4.2(B)(8) or (ii) restoration of any principal building that existed on a lot or for which a building permit was issued prior to February 1, 1988.

Add SECTION 5.4.2.B(8):

(8) Exemption for energy efficient homes on R0, R1 or R2 lots with an existing principal building. The minimum frontage and lot area requirements shall not apply to homes constructed to the lower of either (i) Home Energy Rating System (HERS) Score of 44 or below, or (ii) the maximum allowed HERS Score defined in the International Energy Conservation Code as adopted and amended by Massachusetts, and:

- The new structure is built within the existing foundation footprint, or with an addition that is not a Large Addition as defined in Section 5.4.2.B(6), or
- The lot has at least 5,000 square feet of area, or
- By special permit.

A Warrant Article to amend the Zoning Bylaw has been refiled by the Redevelopment Board on behalf of Barbara Thornton and 10 registered voters:

Article 42 **ZONING BYLAW AMENDMENT/ AFFORDABLE HOUSING ON PRIVATELY OWNED PARCELS OF "NON-CONFORMING" SIZE**

To see if the Town will vote to allow the development of new sources of permanently affordable housing (affordable in perpetuity and affordability as defined in Arlington Zoning By-Laws) by modifying the requirements for constructing housing units to enable construction on smaller lots as long as those units are permanently committed to be available for rental or ownership according to official regional guidelines (see (Zoning Bylaw Section 2, Basic Provisions, Definitions Associated with Affordable Housing) of affordability.

Such construction would be permissible in all zoning districts allowing residential use, providing the tracts were laid out prior to July 1, 2019, and receive a special permit from the ZBA. Ownership, sale, repurchase and rentals of each property would be overseen by the Arlington Housing Trust Fund or a comparable entity that would have the authority to enforce the affordability guidelines in perpetuity; or take any action related thereto.

(Inserted at the request of the Redevelopment Board on behalf of Barbara Thornton and 10 registered voters)

Ms. Thornton's proposed amendment has been carried over after deferral from 2020 Annual Town Meeting. Ms. Thornton provided commentary with her supporting information, which is attached with the agenda.

The staff provides the following additional considerations relevant to this article:

- **Proposed Main Motion –** The main motion provided by the petitioner inserts language in Section 5.4.2, which outlines a series of exceptions for residential uses and is consistent with the goal of this proposal. The main motion identifies the density and dimensional requirements for a non-conforming lot to be built on as long as the new lot and dwelling receives a special permit and conforms to the requirements of Section 8.2, Arlington's inclusionary zoning provisions.

- **Benefits of the Proposal –** Smaller homes reduce resources needed to build and maintain housing, and they can contribute to sustaining rapidly changing communities. Allowing smaller homes through smart regulations is one component of addressing housing needs across the greater Boston area. The information provided indicated that the homes built will tend to be smaller in comparison to new homes being constructed (range from 1,500 square feet of gross floor area to 1,800 square feet of gross floor area, with two-family structures allowed a larger gross floor area). The petitioner's other proposal, which allows detached accessory dwelling units may be the more straight-forward proposal that achieves a similar, smaller housing type.

- **Number of lots that could become buildable –** The article appears to allow a two-fold approach to creating new affordable housing units in the R0, R1, and R2 districts: allowing owners of existing over-sized lots to subdivide an adjacent non-conforming lot and allowing the construction on existing non-conforming lots. In either case, the main motion outlines the uses and density and dimensional requirements.

  The universe of lots in the R0, R1, and R2 districts is 11,675. The article would allow existing property owners to subdivide off a non-conforming lot as long as the lot with the existing structure remains conforming. First, DPCD looked at lots that meet the minimum lot that would be required for a property owner to take advantage of the proposed amendment. Due to the

limitations of the data, staff were unable to assess other aspects of the existing lot and structure, so the analysis yields a conservative estimate of 1,546 lots (13.2%) where a smaller lot could be created.

Additionally, the article does not seem to preclude the construction of a new home on an existing lot (a 0-Lot) that meets the minimum lot area and minimum frontage in the article. There are 203 lots (1.2%) that could become buildable if all conditions of the article are met.

In sum, this article could affect nearly 15% of the total number of lots zoned R0, R1, and R2.

District	Total Number of Lots	Lot Size Necessary for the Article[15]	Total Number of Lots that Meet or Exceed the Minimum Required	0-Lots With Minimum Lot Size and Frontage per the Article[16]
R0	549	13,000 sf	173	15
R1	7,470	9,000 sf	1,242	167
R2	3,656	10,000 sf	131	21
Total	11,675		1,546	203

- **Allowing the creation of undersized lots and inconsistency with MGL c.40A** – The Zoning Bylaw sets forth minimum lot sizes and minimum required frontages, and new lots that are created that do not meet these requirements are inconsistent with the Zoning Bylaw. There is nothing in the Board of Survey regulations that suggest that the Town has the power to create nonconforming lots through a Special Permit process. It would appear that this part of the amendment is in conflict with the Zoning Bylaw, the Board of Survey regulations, and state law under MGL c.40A. Cottage-style developments are typically regulated through residential open space developments (previously known as cluster development in Chapter 40A) and PUDs, which are promoted through the Zoning Act. In Arlington's Zoning Bylaw, PUDs are allowed, but are used in a different way than what this Warrant Article seeks to accomplish.

- **Economics of the proposal –** The Warrant Article may not be economical for many developers or homeowners to take on. The point above regarding consistency with the Zoning Bylaw, the Board of Survey regulations, and state law aside, the Warrant Article requires a Special Permit process and that the unit be sold or rented at an affordable price consistent with Section 8.2. The discretionary review process by the ZBA and the lower profits may lead a developer to choose the 40B pathway to achieve their goals. The economics may become feasible if, in addition to allowing construction on nonconforming lots, the Town provided a subsidy, potentially through the Affordable Housing Trust. The Affordable Housing Trust was just adopted by Town Meeting in November 2020. As part of the public process to develop an action plan, this Board could consider if this type of subsidy is an activity the Trust wants to pursue.

- **Relationship to Article 25 –** A non-zoning Town Meeting warrant, Article 25, seeks to request that the Town study and implement an Affordable Housing Overlay District. By way of example, the City of Cambridge adopted an Affordable Housing Overlay District in 2020, which seeks to help affordable housing developers create new, permanently affordable homes more quickly,

[15] The lot sizes noted in the chart are the requirement of the underlying zones plus the requirement for a new lot created via this article.

[16] Note that there is some overlap between the total number of 0-Lots and those which meet the minimum lot sizes that would be required under this proposed amendment; individual lots have not been evaluated to determine whether they have an appropriate location, topography, or a suitable use for future development.

more cost effectively, and in areas of Cambridge where there are currently fewer affordable housing opportunities. Should Article 25 be adopted by Town Meeting, the goals of this Article 42 could reasonably align with a future study enabling a more holistic approach to incentivizing the development of permanently deed restricted affordable housing in Arlington.

- **Consistency with the Housing Production Plan –** Strategy 2 of the Housing Production Plan recommends amending the Zoning Bylaw in order to facilitate development of a range of housing types (page 60). One of the specific suggestions is to allow more than one structure on a lot, which is currently prohibited in the Zoning Bylaw to facilitate a cluster-style development or planned developed. This recommendation might be a simpler solution to what this Warrant Article seeks to accomplish.

  While the intention of this article is notable, it may not have the impact that the petitioner seeks to achieve. As noted in the introduction of this memo, the update to the Housing Production Plan (HPP) will be underway shortly. Through the public engagement process and review of the 2016 HPP, the concept proposed in this article could be refined and recommended with broad support from the community.

Amend Section 5.4.2:

E. Exceptions for affordable housing. In the R0, R1, and R2 districts, a lot may be built upon with a single- or two-family use provided that the Board of Appeals, acting pursuant to Section 3.3, issues a special permit and the dwelling(s) complies with Section 8.2, and provided that the following use, density, and dimensional requirements are met:

(1) R0
- Only single-family structures are allowed.
- Lot area and frontage. The minimum lot size is 4,000 square feet and the minimum frontage is 50 feet.
- Yards. The following minimum yards shall apply: the front yard shall be 25 feet, the side yard shall be 10 feet, and the rear yard shall be 20 feet.
- Floor area ratio. The floor area ratio shall be 0.45.
- Open space. The minimum open space shall be 20 percent with a minimum horizontal dimension in any one direction of 20 feet.
- Maximum lot coverage. The maximum lot coverage shall be 35 percent.
- Maximum building height. The maximum building height shall be 35 feet and the maximum stories shall be 2 and one-half stories.

(2) R1
- Only single-family structures are allowed.
- Lot area and frontage. The minimum lot size is 3,000 square feet and the minimum frontage is 40 feet.
- Yards. The following minimum yards shall apply: the front yard shall be 15 feet, the side yard shall be 5 feet on one side and 10 feet on the second side, and the rear yard shall be 20 feet.
- Floor area ratio. The floor area ratio shall be 0.50.
- Open space. The minimum open space shall be 20 percent with a minimum horizontal dimension in any one direction of 20 feet.
- Maximum lot coverage. The maximum lot coverage shall be 35 percent.
- The maximum building height. The maximum building height shall be 35 feet and the maximum stories shall be 2 and one-half stories.

(3) R2

- Single or two-family structures are allowed.
- Lot area and frontage. The minimum lot size is 4,000 square feet and the minimum frontage is 40 feet.
- Yards. The following minimum yards shall apply: the front yard shall be 15 feet, the side yard shall be 5 feet on one side and 10 feet on the second side, and the rear yard shall be 20 feet.
- Floor area ratio. The floor area ratio shall be 0.85 for a two-family dwelling. The floor area ratio shall be 0.45 for a single-family dwelling.
- Open space. The minimum open space shall be 20 percent with a minimum horizontal dimension in any one direction of 20 feet.
- Maximum lot coverage. The maximum lot coverage shall be 35 percent.
- The maximum building height. The maximum building height shall be 35 feet and the maximum stories shall be 2 and one-half stories.

Further, a lot may be subdivided that meets the requirements as outlined above. However, the existing lot must meet all conforming lot requirements in accordance with Section 5.

A Warrant Article to amend the Zoning Bylaw has been submitted by Barbara Thornton and 10 registered voters:

Article 43 **ZONING BYLAW AMENDMENT/**
ARTICLE TO PROPOSE THE ADOPTION OF ACCESSORY DWELLING UNITS

To see if the Town will vote to the purpose of this article is to see if the Town will amend the Zoning Bylaw to allow Accessory Dwelling Units (ADUs) on the property of single family, two-family, and duplex dwellings; or take any action related thereto.

(Inserted at the request of Barbara Thornton and 10 registered voters)

Ms. Thornton has provided additional information to support this Article. It is attached to the agenda. The staff provides the following additional considerations relevant to this article:

- **Substantially different that previous proposals –** This amendment is substantially different than the previous accessory dwelling unit proposals considered by Town Meeting, most recently at the 2020 Special Town Meeting and the 2019 Annual Town Meeting. In particular, the amendment considered by the 2019 Town Meeting required a special permit for the use and was limited to the R0 and R1 Zoning Districts; this amendment allows Accessory Dwelling Units (ADUs) by right in single- family, two-family, and duplex dwellings in any residential and commercial district. The amendment considered by the 2020 Special Town Meeting included a very different definition for ADUs that specified the number of rooms necessary and provided scant limits on the size of the ADU. This amendment brings together pieces of the 2019 and 2020 amendments that have been identified by the ARB previously.

- **Why allow Accessory Dwelling Units? –** ADUs provide a number of benefits to property owners: allow additional flexibility on using space within the home; allow for options that may create supplementary income; allow aging in place or multigenerational families on the property; and increase long-term rental housing opportunities while balancing potential impacts to existing neighborhoods. These benefits are consistent with the goals of the Housing Production Plan and are encouraged to facilitate a range of housing types to help meet the needs of specific demographics, such as seniors, multi-generational households, individuals with disabilities, low-to-middle income family households, and singles (p. 60).

- **How many Accessory Dwelling Units will be created? –** *The State of Zoning for Accessory Dwelling Units*[17] provides an excellent overview of how Massachusetts municipalities choose to allow or not allow ADUs. This study highlights the fact that even when municipalities allow ADUs by right with some limitations as is the case in this amendment, the actual number of units that are created is still quite low. While there may be heightened initial demand should this amendment be adopted by Town Meeting, Ms. Dain's report states that, "…2.5 units on average are permitted annually per municipality that allows ADUs (including those that are restricted to relatives)." There is a high cost of constructing the space that meets the requirements of building and safety codes, which may limit to who would actually take on the construction. These facts coupled with the number of units generated from similar zoning bylaws in other municipalities demonstrate that there would be likely minimal impact on the residential zoning districts.

[17] https://ma-smartgrowth.org/wp-content/uploads/2019/01/ADU-MSGA-Pioneer-paper-2018.pdf

- **Preservation of existing housing** – Accessory Dwelling Units provide financial and social incentives for owners to preserve the façade of existing housing, thereby maintaining the appearance of the streetscape while increasing the number and range of housing options.

- **Supports Arlington Families** – ADUs have the potential to support families in Arlington throughout life stages because the amendment allows the owner to live in the principal dwelling unit or the ADU. By developing an ADU on a property, middle-age homeowners have the ability to provide independent housing to their adult children, who then have the ability to live in Arlington at lower or more affordable rental rates. They also provide middle-age homeowners with the flexibility to invite aging parents to move in and provide them material, physical, and emotional support. As homeowners grow older, ADUs permit seniors to live in intergenerational housing while remaining in their home, access a new income stream, or live independently while inviting their adult children to move into the home.

- **Relationship to Chapter 358 of the Acts of 2020** – Chapter 358 of the Acts of 2020 made a series of revisions to Chapter 40A, including lowering the voting threshold for amendments that allow ADUs by-right either within the principal dwelling or within a detached structure on the same lot. This amendment can be enacted by a simple majority instead of a two-thirds majority vote.[18] The proposed amendment is aligned with the other standards outlined in Chapter 358 of the Acts of 2020 for ADUs, including the definition and standards.[19]

- **Consistency with the Housing Production Plan (HPP)** – The Housing Production Plan adopted by the Select Board and Redevelopment Board and approved by the Massachusetts Department of Housing and Community Development in 2016 identifies various regulatory and zoning amendments in order to create and preserve affordable housing in Arlington. The plan identifies zoning amendments to allow for ADUs as a method to facilitate development of a range of housing types to help meet the needs of specific demographics, such as seniors, multi-generational households, individuals with disabilities, low-to-middle income family households, and singles (p. 60).

Amend Section 2:

Accessory Dwelling Unit: A self-contained housing unit, inclusive of sleeping, cooking and sanitary facilities on the same lot as a principal dwelling.

Amend Section 5.4.3:

Class of Use	R0	R1	R2	R3	R4	R5	R6	R7
Accessory Uses								
Accessory Dwelling	Y	Y	Y	Y	Y	Y	Y	Y

Amend Section 5.5.3:

Class of Use	B1	B2	B2A	B3	B4	B5
Accessory Uses						
Accessory Dwelling	Y	Y	Y	Y	Y	Y

[18] https://www.mass.gov/doc/guidance-on-zoning-act-voting-thresholds-02-26-21/download
[19] https://malegislature.gov/Laws/SessionLaws/Acts/2020/Chapter358

Add Section 5.9.2:

5.9.2 Accessory Dwelling Units

A. Purpose. The purpose of this Section 5.9.2 includes:

(1) Promoting the use of accessory dwelling units as a means of providing Arlington property owners with an opportunity to age in place, to create independent living space for elderly, disabled or other family or household members, to downsize or to earn supplemental income from investing in their properties.
(2) Helping Arlington residents to conserve and grow their own property values.
(3) Encouraging housing for persons of all income levels and ages.
(4) Encouraging an orderly expansion of the tax base without detracting from the existing character of the affected neighborhoods.

B. Requirements.

(1) In any Residential District or Business District, an accessory dwelling unit is permitted as an accessory use to any single-family dwelling, two-family dwelling, or duplex dwelling, if all of the following conditions are met:

- An accessory dwelling unit shall be not larger in floor area than one-half the floor area of the principal dwelling or 900 square feet, whichever is smaller. For the avoidance of doubt, where an accessory dwelling unit is created by converting a portion of an existing principal dwelling to an accessory dwelling unit, the floor area of the resulting accessory dwelling unit shall be measured relative to the floor area of the resulting principal dwelling (as affected by or in connection with the conversion).
- An accessory dwelling unit shall maintain a separate entrance, either directly from the outside or through an entry hall or corridor shared with the principal dwelling, sufficient to meet the requirements of the State Building Code for safe egress.
- No more than one (1) accessory dwelling unit is allowed per principal dwelling unit.
- An accessory dwelling unit may be located in (i) the same building as the principal dwelling unit or as an expansion to such building (provided such expansion complies with the applicable requirements of this Bylaw, including, if applicable thereto, Section 5.4.2B(6)); (ii) a building that is attached to the principal dwelling unit; or (iii) an accessory building, which accessory building shall not constitute a principal or main building by the incorporation of the accessory dwelling unit.
- An accessory dwelling unit shall not be used as a short-term rental, in accordance with Title V, Article 18, Section 3 of the By-Laws of the Town of Arlington.
- An accessory dwelling unit shall be subject to all applicable requirements of the State Building Code and Fire Department regulations (including any such requirements, if and as applicable, which prohibit openings, including windows, in exterior walls of dwellings located within a certain distance from the property line).

(2) The creation or addition of an accessory dwelling unit shall not change the zoning classification of the property in question and shall not affect any zoning relief previously obtained for such property. By way of example only (and without limitation), a single-family dwelling having an accessory dwelling unit shall continue to be classified as a single-family dwelling for single-family use under the Zoning Bylaw; a two-family dwelling having an

accessory dwelling unit shall continue to be classified as a two-family dwelling for two-family use under the Zoning Bylaw; and a duplex having an accessory dwelling unit shall continue to be classified as a duplex dwelling for duplex use under the Zoning Bylaw.

(3) No off-street parking spaces are required in connection with the creation or addition of an accessory dwelling unit.

(4) An accessory dwelling unit shall not be owned separately from the principal dwelling unit with which such accessory dwelling unit is associated.

C. Administration

(1) Prior to the issuance of a building permit for an accessory dwelling unit, the owner must deliver an affidavit to the building inspector stating that the owner or a family member of the owner will reside in either the principal dwelling unit or the accessory dwelling unit upon completion of the accessory dwelling unit.

(2) The creation or addition of an accessory dwelling unit to a principal dwelling unit shall not be subject to the foregoing paragraph 5.9.2.C(1) if the principal dwelling unit and accessory dwelling unit are owned by a non-profit or governmental entity and the accessory dwelling unit is restricted as an affordable unit.

(3) This Section 5.9.2 shall be effective as of the date on which it is enacted at Town Meeting in accordance with applicable law, except for clause (iii) of Section 5.9.2.B.(1), fourth bullet, which clause (iii) shall be effective as of the date occurring six (6) months after the date on which this Section 5.9.2 is enacted at Town Meeting.

(4) In the event of any conflict or inconsistency between the provisions of this Section 5.9.2 or Section 8.1.3.E, on the one hand, and any other provisions of this Bylaw, the provisions of this Section 5.9.2 and Section 8.1.3.E shall govern and control.

Amend Section 8.1.3:

E. The creation or addition of an accessory dwelling unit within an existing single-family dwelling, two-family dwelling, or duplex dwelling, or within an existing accessory building on the same lot as any such dwelling, does not increase or affect the nonconforming nature of said existing dwelling or accessory building, and shall not cause such dwelling or accessory building to become non-conforming or result in any additional dimensional requirements with respect to such dwelling or accessory building, provided that such creation or addition of an accessory dwelling unit neither expands the footprint nor the height of said dwelling or accessory building (with the exception of changes necessary to provide for required egress or other modification to meet the State Building Code and Fire Department regulations, and with the exception of any items which are permitted under Section 5.3.9 to extend beyond the minimum yard regulations otherwise provided for the district in which the applicable structure is located).

Memorandum to the Redevelopment Board – Article 41, 2021 Town Meeting

Original submission language for ATM 2020:
ARTICLE 41 ZONING BYLAW AMENDMENT/DEFINITION OF FOUNDATION To see if the Town will vote to amend the Zoning Bylaw in Section 2, by adding a new definition as follows: Building Foundation: The masonry or concrete structure in the ground which supports the building. It does not include porches, decks, sheds, patios, one story attached garages, carports, or the like; or take any action related thereto.

This article was originally submitted for the 2020 Annual Town Meeting and was deferred. The petitioner (I, Patricia Worden) requested that the article be inserted in the 2021 Annual Town Meeting Warrant. The amendment is embedded into the Warrant Article. Since that time I have received advice for improvements from Christian Klein, Chair of the Zoning Board of Appeals and become aware of various materials now being developed for foundations and so now request that the following language be submitted for Article 41 in place of the version filed in 2020:

Proposed vote under Article 21:

Voted to amend the Zoning Bylaw in Section2 by adding the following new definition:
BUILDING FOUNDATION: The entity supporting the building and constructed of masonry or concrete or other material of appropriate industry standards for such purpose, whether insulated or non-insulated. It does not include porches, decks, attached storage facilities which are not part of the original structure, patios, one story attached private garages (except in the case of a single story building), carports, any accessory structure or the like.

Explanation
The bylaw provision for large additions (Sec. 5-18 B (6)) requires a special permit unless the addition is entirely within the existing foundation.

The foundation of a structure is very obvious and easily identified. Howeer past practice in Arlington has shown that the identifiable foundation has often been ignored and redefined as something larger enabling a much larger addition than would be allowed without a special permit.

We have plenty of small or medium size older or antique houses in Arlington which are reasonably affordable. This is despite the unfortunate statement to the contrary made by the Planning Department based on selective and erroneous sampling – not approved bythe Residential Study Group. These hundreds of small homes have made wonderful naturally affordable homes for downsizing retiring seniors and starting couples who can raise the roof to expand for a growing family. But these homes are now targeted and brokered just for developers of massive rebuilds and are rarely available on the open market. It is a quick and easy windfall for a broker to keep a list of developers planning teardowns to arrange for a quick sale to the developer because the broker may then have the opportunity for not one but two or three commissions – the original house and the one or two much more expensive million dollar homes replacing the teardown.

The Zoning Bylaw provides that raised structures on the foundation may be done without a special permit under the large addition provision. The rationale for this is set forth above, however, since foundation is not defined. Inspectional Services have interpreted foundation in such a way that the tiny cape or ranch turns into the large McMansion – some porches, decks, carports, attached garages are commandeered to become part of the "foundation." This definition does not prevent owners constructing large additions but would just require a special permit in cases where the addition exceeds 750 square feet which was the original intent of the large addition bylaw.

The requirement for developers to apply for a permit if expanding beyond the foundation is of paramount importance to provide notice to abutters. That is why the definition of foundation is so important.

Patricia Barron Worden
Town Meeting Member, pct. 8

Creation of a Process Allowing Permanently Affordable Housing to be Built on Privately Owned Parcels of "Non-Conforming" Size

ARB Hearing: March 15, 2021

Presented by Barbara Thornton, TMM, Precinct 16, 223 Park Ave., Arlington

I am here this evening to ask you to support this legislation designed to use the regulatory powers of municipal government to increase the number of permanently Affordable (according to HUD guidelines) housing in the Town of Arlington. There may be 500 or more such qualifying parcels in the Town. If only half of those were developed by owners, it would yield a hugely significant increase in the amount of permanently Affordable housing in Arlington, a highly desirable goal.

In the Main Motion section below, you will find a draft example of how this regulation may be incorporated into current zoning requirements.

Article:

Creation of a Process Allowing Permanently Affordable Housing to be Built on Privately Owned Parcels of "Non-Conforming" Size

To see if the Town will vote, to allow the development of new sources of permanently affordable housing (affordable in perpetuity with "affordability" as defined in Arlington Zoning By-Laws) by modifying the requirements for constructing housing units to enable construction on smaller lots as long as those housing units are permanently committed, via deed restriction, to be available for rental or ownership according to official regional guidelines (see (Zoning Bylaw Section 2, Basic Provisions, Definitions Associated with Affordable Housing) of affordability, or take any action related thereto.

Such construction would be permissible in all zoning districts allowing residential use, providing the tracts were laid out prior to July 1, 2020, and provided the proposed construction receives a special permit from the ZBA.

Ownership, sale, repurchase and rentals of each property by the owner would be overseen to ensure compliance with affordability requirements, by the Arlington Housing Trust Fund or a comparable entity that would have the authority to enforce the affordability guidelines in perpetuity.

Creation of a Process Allowing Permanently Affordable Housing to be Built on Privately Owned Parcels of "Non-Conforming" Size

ARB Hearing: March 15, 2021

Non Conforming Parcels – Main Motion

Amend Section 5.4.2:

E. Exceptions for affordable housing. In the R0, R1, and R2 districts, a lot may be built upon with a single- or two-family use provided that the Board of Appeals, acting pursuant to Section 3.3, issues a special permit and the dwelling(s) complies with Section 8.2, and provided that the following use, density and dimensional requirements are met:

(1) R0

- Only single-family structures are allowed.
- Lot area and frontage. The minimum lot size is 4,000 square feet and the minimum frontage is 50 feet.
- Yards. The following minimum yards shall apply: the front yard shall be 25 feet, the side yard shall be 10 feet, and the rear yard shall be 20 feet.
- Floor area ratio. The floor area ratio shall be 0.45.
- Open space. The minimum open space shall be 20 percent with a minimum horizontal dimension in any one direction of 20 feet.
- Maximum lot coverage. The maximum lot coverage shall be 35 percent.
- Maximum building height. The maximum building height shall be 35 feet and the maximum stories shall be 2 and one-half stories.

(2) R1

- Only single-family structures are allowed.
- Lot area and frontage. The minimum lot size is 3,000 square feet and the minimum frontage is 40 feet.
- Yards. The following minimum yards shall apply: the front yard shall be 15 feet, the side yard shall be 5 feet on one side and 10 feet on the second side, and the rear yard shall be 20 feet.
- Floor area ratio. The floor area ratio shall be 0.50.
- Open space. The minimum open space shall be 20 percent with a minimum horizontal dimension in any one direction of 20 feet.
- Maximum lot coverage. The maximum lot coverage shall be 35 percent.
- The maximum building height. The maximum building height shall be 35 feet and the maximum stories shall be 2 and one-half stories.

(3) R2

- Single or two-family structures are allowed.
- Lot area and frontage. The minimum lot size is 4,000 square feet and the minimum frontage is 40 feet.
- Yards. The following minimum yards shall apply: the front yard shall be 15 feet, the side yard shall be 5 feet on one side and 10 feet on the second side, and the rear yard shall be 20 feet.
- Floor area ratio. The floor area ratio shall be 0.85 for a two-family dwelling. The floor area ratio shall be 0.45 for a single-family dwelling.

Creation of a Process Allowing Permanently Affordable Housing to be Built on Privately Owned Parcels of "Non-Conforming" Size

ARB Hearing: March 15, 2021

- Open space. The minimum open space shall be 20 percent with a minimum horizontal dimension in any one direction of 20 feet.
- Maximum lot coverage. The maximum lot coverage shall be 35 percent.
- The maximum building height. The maximum building height shall be 35 feet and the maximum stories shall be 2 and one-half stories.

Further, a lot may be subdivided that meets the requirements as outlined above. However, the existing lot must meet all conforming lot requirements in accordance with Section 5.

Accessory Dwelling Units – Main Motion

The purpose of this Motion includes promoting the use of accessory dwelling units as a means of providing Arlington property owners with an opportunity to age in place, to create independent living space for elderly, disabled or other family or household members, to downsize or to earn supplemental income from investing in their properties. Accessory dwelling units will help Arlington residents conserve and grow their own property values; encourage housing for persons of all income levels and ages; and encourage an orderly expansion of the tax base without detracting from the existing character of the affected neighborhoods.

1. Amend Section 2 (Definitions) to add the following definition to the sub-section on "Definitions Associated with Dwelling":

   Accessory Dwelling Unit: a self-contained housing unit, inclusive of sleeping, cooking and sanitary facilities on the same lot as a principal dwelling.

2. Amend Section 5.4.3 (Use Regulations for Residential Districts) to add the accessory dwelling unit use to the table of uses:

Class of Use	R0	R1	R2	R3	R4	R5	R6	R7
Accessory Uses								
Accessory Dwelling Unit	Y	Y	Y	Y	Y	Y	Y	Y

3. Amend Section 5.5.3 (Use Regulations for Business Districts) to add the accessory dwelling unit use to the table of uses:

Class of Use	B1	B2	B2A	B3	B4	B5
Accessory Uses						
Accessory Dwelling Unit	Y	Y	Y	Y	Y	Y

4. Add a new section, **Section 5.9.2 (Accessory Dwelling Units)**, containing standards for accessory dwelling units:

   5.9.2 Accessory Dwelling Units

   A, Purpose**.** The purpose of this Section 5.9.2 includes:

   (1) Promoting the use of accessory dwelling units as a means of providing Arlington property owners with an opportunity to age in place, to create independent living space for elderly, disabled or other family or household members, to downsize or to earn supplemental income from investing in their properties.

   (2) Helping Arlington residents to conserve and grow their own property values.

(3) Encouraging housing for persons of all income levels and ages.

(4) Encouraging an orderly expansion of the tax base without detracting from the existing character of the affected neighborhoods.

B. **Requirements**

(1) In any Residential District or Business District, an accessory dwelling unit is permitted as an accessory use to any single-family dwelling, two-family dwelling, or duplex dwelling, if all of the following conditions are met:

- An accessory dwelling unit shall be not larger in floor area than one-half the floor area of the principal dwelling or 900 square feet, whichever is smaller. For the avoidance of doubt, where an accessory dwelling unit is created by converting a portion of an existing principal dwelling to an accessory dwelling unit, the floor area of the resulting accessory dwelling unit shall be measured relative to the floor area of the resulting principal dwelling (as affected by or in connection with the conversion).

- An accessory dwelling unit shall maintain a separate entrance, either directly from the outside or through an entry hall or corridor shared with the principal dwelling, sufficient to meet the requirements of the State Building Code for safe egress.

- No more than one (1) accessory dwelling unit is allowed per principal dwelling unit.

- An accessory dwelling unit may be located in (i) the same building as the principal dwelling unit or as an expansion to such building (provided such expansion complies with the applicable requirements of this Bylaw, including, if applicable thereto, Section 5.4.2B(6)); (ii) a building that is attached to the principal dwelling unit; or (iii) an accessory building, which accessory building shall not constitute a principal or main building by the incorporation of the accessory dwelling unit.

- An accessory dwelling unit shall not be used as a short-term rental, in accordance with Title V, Article 18, Section 3 of the By-Laws of the Town of Arlington.

- An accessory dwelling unit shall be subject to all applicable requirements of the State Building Code and Fire Department regulations (including any such requirements, if and as applicable, which prohibit openings, including windows, in exterior walls of dwellings located within a certain distance from the property line).

(2) The creation or addition of an accessory dwelling unit shall not change the zoning classification of the property in question and shall not affect any zoning relief previously obtained for such property. By way of example only (and without limitation), a single-family dwelling having an accessory dwelling unit shall continue to be classified as a single-family dwelling for single-family use under the Zoning Bylaw; a two-family dwelling having an accessory dwelling unit shall continue to be classified as a two-family dwelling for two-family use under the Zoning Bylaw; and a duplex having an accessory dwelling unit shall continue to be classified as a duplex dwelling for duplex use under the Zoning Bylaw.

(3) No off-street parking spaces are required in connection with the creation or addition of an accessory dwelling unit.

(4) An accessory dwelling unit shall not be owned separately from the principal dwelling unit with which such accessory dwelling unit is associated.

C. **Administration**

(1) Prior to the issuance of a building permit for an accessory dwelling unit, the owner must deliver an affidavit to the building inspector stating that the owner or a family member of the owner will reside in either the principal dwelling unit or the accessory dwelling unit upon completion of the accessory dwelling unit.

(2) The creation or addition of an accessory dwelling unit to a principal dwelling unit shall not be subject to the foregoing paragraph 5.9.2.C(1) if the principal dwelling unit and accessory dwelling unit are owned by a non-profit or governmental entity and the accessory dwelling unit is restricted as an affordable unit.

(3) This Section 5.9.2 shall be effective as of the date on which it is enacted at Town Meeting in accordance with applicable law, except for clause (iii) of Section 5.9.2.B.(1), fourth bullet, which clause (iii) shall be effective as of the date occurring six (6) months after the date on which this Section 5.9.2 is enacted at Town Meeting.

(4) In the event of any conflict or inconsistency between the provisions of this Section 5.9.2 or Section 8.1.3.E, on the one hand, and any other provisions of this Bylaw, the provisions of this Section 5.9.2 and Section 8.1.3.E shall govern and control.

5. Add a new paragraph E to **Section 8.1.3 (Nonconforming Single-Family or Two-Family Dwellings)**:

E. The creation or addition of an accessory dwelling unit within an existing single-family dwelling, two-family dwelling, or duplex dwelling, or within an existing accessory building on the same lot as any such dwelling, does not increase or affect the nonconforming nature of said existing dwelling or accessory building, and shall not cause such dwelling or accessory building to become non-conforming or result in any additional dimensional requirements with respect to such dwelling or accessory building, provided that such creation or addition of an accessory dwelling unit neither expands the footprint nor the height of said dwelling or accessory building (with the exception of changes necessary to provide for required egress or other modification to meet the State Building Code and Fire Department regulations, and with the exception of any items which are permitted under Section 5.3.9 to extend beyond the minimum yard regulations otherwise provided for the district in which the applicable structure is located).

EQUITABLE ARLINGTON
ACCESSORY DWELLING UNITS: FACT SHEET & FAQs

PURPOSE

The ADU zoning amendment is intended to recognize and build on the majority support for ADUs from both the 2019 town meeting and from town residents who recognize a clear need for Arlington residents to:

- encourage housing for persons of all income levels and ages by making available housing opportunities for people who need housing of a type (smaller) or for a price (lower) not currently available to them; and
- offer homeowners the ability to age in place, create independent living space for family or household members, downsize, or earn supplemental income in order to continue to live in their own homes while offsetting rising Arlington property taxes. [1]

WHAT ARE WE PROPOSING?

To allow accessory dwelling units ("ADUs") by right (i.e., without the need for a special permit or other zoning relief) in connection with single-family dwellings, two-family dwellings and duplex dwellings. Key components of this proposal include:

1. ADUs would be limited in size to 900 square feet, or 50% of the floor area of the principal residence, whichever is less.
2. One ADU would be allowed per primary residence, either (1) within the existing footprint of the building (e.g., in a basement or attic); (2) as an addition to an existing residence; or (3) within a detached structure (such as a carriage house or garage).
3. ADUs would still be subject to all applicable dimensional requirements of the Arlington Zoning By-Law ("Bylaw") the same as any other home addition. For example, under Section 5.4.2B(6) of the Bylaw, any addition of 750 square feet or more of gross floor area (including to create an ADU) would require a special permit.
4. No additional off-street parking spaces would be required if a homeowner sought to build an ADU (but all parking would remain subject to Arlington's ban on overnight on-street parking).
5. Before applying for a building permit for an ADU, the owner would need to certify to the building inspector that the owner or a family member of the owner will reside in either the principal dwelling unit or the accessory dwelling unit upon completion of the ADU.
6. ADUs would also be subject to the state Building Code and to all applicable Fire Department rules and regulations.
7. An ADU could not be owned separately from the principal dwelling unit (i.e., cannot be converted to a condo and sold).

[1] See the AARP report, "The ABCs of ADUs," which can be found at the following link: https://www.aarp.org/content/dam/aarp/livable-communities/livable-documents/documents-2019/ADU-guide-web-singles-071619.pdf.

FREQUENTLY ASKED QUESTIONS:

1. ***What is an Accessory Dwelling Unit, or ADU?***
   An ADU is a separate, smaller living unit with its own kitchen and bathroom facilities that is attached to or included within a larger residence or located in an accessory structure on the same lot as a larger residence.

2. ***What's the difference between a home with an ADU and a two-family home?***
   In a two-family home, both units can be the same size, and they might be separately owned as condo units (and can be sold separately from each other). In contrast, an ADU is subordinate to the principal dwelling unit with which it is associated – it can't have more than 50% of the floor area of the principal dwelling (and in any event can't exceed 900 square feet), and it cannot be sold separately from the principal dwelling.

3. ***Preserving the character of Arlington neighborhoods***
   Any ADU will be subject to all existing dimensional limitations, meaning that a homeowner could not expand their home to add an ADU any more than they could expand their home for additional living space. Based on the experience of other Massachusetts cities and towns that allow ADUs, we expect the number of ADUs permitted each year to be modest (approx. 2-3 units/year).[2]

4. ***ADUs for Arlington homeowners, not developers***
   ADUs will be built by existing homeowners, not developers, and the ADU cannot be "flipped" or otherwise sold as a condo. Under our proposal, someone seeking to build an ADU would need to certify to the building inspector that they or a family member will reside in either the principal dwelling unit or the accessory dwelling unit upon completion of the accessory dwelling unit. The proposal includes an exception to this certification for non-profit or governmental entities that restrict the ADU as affordable.

5. ***Protecting the environment and preserving open spaces***
   ADUs would still be subject to existing limitations on development that are imposed by the Bylaw. For example, an ADU would need a special permit if it would expand the gross floor area of an existing building by 750 square feet or more. In addition, because they are smaller, use existing infrastructure and will often be attached to the principal residence, ADUs will require less energy and fewer resources to build and maintain than detached, single-family dwellings.

6. ***No additional pressure on parking resources***
   Our proposal would not change any existing on-street parking requirements, which include a prohibition on overnight street parking, meaning that any additional vehicles would need to be accommodated on the property in question.[3] In addition there is, on average, typically less than one additional car for each ADU.[4]

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[2] The report, "The State of Zoning for Accessory Dwelling Units," written by Amy Dain and published by the Pioneer Institute for Public Policy Research in July 2018, can be found at the following link: https://www.aarp.org/content/dam/aarp/livable-communities/livable-documents/documents-2019/ADU-guide-web-singles-071619.pdf. This report indicates that, while the number of ADUs varies across jurisdictions, on average, only approximately 2.5 units are permitted in each municipality each year.

[3] See Arlington Traffic Rules and Orders, Article V, Section 14 (prohibiting overnight parking).

[4] See "The ABCs of ADUs", page 16.

7. Allowing ADUs as of right

Allowing ADUs as-of-right would treat ADUs in the same way as any other addition or change to an existing residence (i.e., the addition of an ADU would be subject to the same rules as an expansion to build an additional bedroom or in-home office). Requiring a special permit would depress the creation of many worthwhile ADUs because it would mean that even before the owner knows whether an ADU will be allowed, he or she must incur thousands of dollars upfront to engage a design professional and/or attorney, and undergo a public discretionary approval process.

8. Requiring owner occupancy

Our proposal ensures that ADUs are built by existing Arlington property owners, rather than outside developers, and that Arlington homeowners are able to reap the benefits that ADUs would provide.

More onerous owner-occupancy requirements in other jurisdictions have had the effect of stifling the creation of ADUs due to uncertainty and other unintended consequences, and have imposed burdens on ADU owners that don't exist for anyone else. For example, more onerous requirements could result in non-compliance from changing life circumstances, such as divorce or death of the homeowner or a temporary job relocation and would complicate the sale and refinancing of homes.

In addition, the Arlington building inspector has reviewed the certification requirement in our proposed zoning amendment, and has said that, as drafted, it will not be an administrative burden.

9. Promoting affordability

Because ADUs are by definition small, they can be an important source of reasonably-priced housing within reach for individuals and families who cannot afford a single-family home or larger unit.[5] We've chosen to not impose specific income-eligibility restrictions on the residents of ADUs, however, which would make it illegal in many circumstances for ADUs to be occupied by a family member (which will often be the reason an owner wants to create an ADU in the first place) and would make ADUs impractical given the cost associated with adding an ADU plus the administrative requirements of complying with affordability restrictions.

10. Preserving existing limitations on short-term rentals

Arlington already prohibits the use of ADUs for short-term rentals (such as Airbnb's), so no further restriction is needed in this proposal.[6]

[5] This is consistent with empirical evidence from the AARP, which reports that, according to a survey of ADU occupants in Vancouver, Canada, approximately 37% of ADU residents had incomes below the metropolitan median income. See "Accessory Dwelling Units, Model State Act and Local Ordinance", page 2.

[6] See Town of Arlington Bylaws, Title V, Article 18.

Accessory Dwelling Units







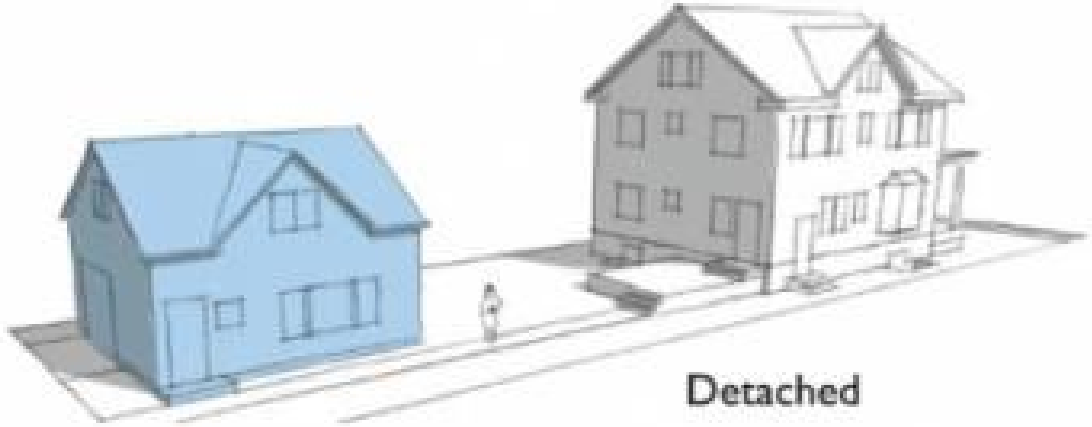
What is an ADU?



Internal



Attached



Detached

(Source: AIA)

Overview of Key Requirements

- Allowed as an accessory use to a single-family dwelling, two-family dwelling, or duplex dwelling;
- Can be in the same building as the principal dwelling, in a building that is attached to the principal dwelling, or in a detached, accessory building on the same lot as the principal dwelling (subject to State Building Code, Fire Department regulations);
- No more than one ADU allowed per principal dwelling;
- Ownership of the ADU cannot be separated from ownership of the principal dwelling with which it is associated;
- Owner or a family member will be required to reside in either the principal dwelling unit or the ADU upon completion of the ADU;
- Can be up to 900 square feet or 50% of the floor area of the principal dwelling (whichever is smaller);
- An ADU cannot be used as a short-term rental;
- No additional off-street parking spaces are required in connection with an ADU.

Goals of ADU Zoning Amendment

- Provide Arlington property owners with an opportunity to:
  - Age in place;
  - Create independent living space for elderly, disabled or other family or household members;
  - Downsize, yet remain on their property;
  - Earn supplemental income from investing in their properties.

- Help Arlington residents to conserve and grow their property values.

- Encourage housing for persons of all income levels and ages.

- Help to expand the tax base without detracting from the existing character of the affected neighborhoods.

- Enable property owners to create or add an ADU without having to incur the risk and associated costs of denial of discretionary zoning relief.

Who Are These ADUs For?

- Seniors on fixed incomes with rising tax bills
- Homeowners looking to build equity and revenue from their homes
- Single residents
- Adult children wanting to stay in Arlington, but not in their childhood bedroom
- Grandparents who can be helpful to their grandchildren
- People who want to “age in place”
- Room for childcare or household help
- Town will gain revenue from new permit fees
- New residents will be customers for local businesses

Warrant article draft language:

> *To see if the Town will vote to: "Amend Section 8.2.3A of the Zoning Bylaw to increase the percentage of affordable housing units required in any development subject to Section 8.2 of the Zoning Bylaw from 15% to 25%" or take any action related thereto.*

Endorsing organizations

Many organizations that focus on housing justice, disability rights, and racial equity endorse this warrant, including:

- City Life/Vida Urbana--which is the foremost tenants rights and housing justice organization in the Boston metro area and was prominently featured in the Arlington Human Rights Commission's inaugural panel on its housing justice series this past December 2020. They offered a statement: "City Life has long advocated for changes in how programs like 'inclusionary development' work… We seek an increase in the percentage of affordable units to a *much higher* percentage."
- The Boston Tenants Coalition
- The Disability Policy Consortium
- Boston Center for Independent Living
- MassADAPT
- Action for Equity
- Progressive MA, Arlington Chapter
- Mystic Valley NAACP
- Envision Arlington Diversity Taskforce Group (DTG)

What would this warrant article do?

The current zoning bylaw requires 15% of housing in any development of 6 or more units to be affordable to low-income households earning no more than 80% AMI for homeownership units and 70% of AMI for rental units ($62,720 for a single family household; $71,680 for a two-family household; $80,640 for a three-family household; and $89,530 for a four-family household). This warrant article would amend the zoning bylaw to increase the proportion of affordable housing units from 15% to 25% (1 out of 4).

Why should we increase the proportion of affordable units in new developments?

Massachusetts has set a goal for communities to have 10% of their year-round housing be affordable housing. Arlington is woefully behind this goal, with just 5.7% affordable housing. From 2001 to 2018, Arlington has only increased its subsidized housing inventory percentage by 0.1%.

At the same time, Arlington has a significant low-income population. “The town has 1,121 deedrestricted affordable units, but there are about 5,185 potentially eligible households. Many of these households are elderly.” (From the Arlington Housing Plan, pg 56)

Arlington has a lower percentage of affordable housing compared to almost all of its neighboring communities (Belmont 6.5%; Cambridge 14.8%, Medford 7.2%, Somerville 9.7%, Lexington 11.2%, Winchester 3.7%). Arlington is also below most other towns and cities in Middlesex county of similar populations (Billerica 11.5%, Salem 12.6%, Methuen 9.3%).

Currently, we would need more than 900 new units in Arlington to reach the goal of 10% affordability. Without enough affordable housing to balance out new market rate housing, the area median income goes up and rents rise for everyone. This is really important because more than a third of all households in Arlington are cost burdened, defined as paying more than 30% of annual household income on housing, and the median gross rent in Arlington is more than fair market rent for most units (Source, p. 31).

Why 25% and not a different ratio?

BIPOC and working class housing activists in Boston proper are arguing for 33%, or ⅓ of new housing units in private developments to be deemed affordable (Boston’s current IDP is 13%), and we stand in solidarity with their work. Though we agree with the 1/3 goal and would like to see Arlington adopt something as ambitious as this, we wanted to ensure passage and a tangible increase in affordable housing. We think a 25% earmark for affordable housing is more feasible considering the political atmosphere of the town that is generally resistant to affordable housing, while still achieving significant progress in our affordable housing goals.

Other municipalities near us have comparable zoning rules. Cambridge is 20% (by residential floor area)--and this increase did not adversely impact the level of development. Somerville is 20% for all developments of 18 or more units, 17.5% for 8-17 units, and 15% for 6-7 units. Most other municipalities in the state have 10-20% (Source). A rate of 25% would make Arlington a leader for inclusionary zoning.

Why not change income eligibility, make different tiers for # of units, etc?

We wanted to avoid making convoluted rules and guidelines, and keep it simple. We would not be opposed to adding a tier for even lower AMI (60-30% or less, eg) if the Planning Board suggested.

Why do we need more affordable housing NOW?

The Covid-19 pandemic and accompanying economic crash has compounded Boston’s housing crisis. The Bureau of Labor and Statistics estimates that Massachusetts lost 337,900 jobs from November 2019 to November 2020.

More MA residents are having trouble paying their rent or mortgage payments because of Covid and the economic crisis. A survey conducted by the Census Bureau in August 2020 found that more than 315,000 Massachusetts residents were not confident that they will be able to afford their rent payments, with Black and Latinx tenants most concerned about their ability to pay. Many Massachusetts residents were making only partial payments in the summer, indicating that residents are falling behind on their rent or mortgage obligations; nonwhite residents were more likely to have had trouble paying the full amount.

Because of this, people are getting thrown out of their homes; since Governor Baker's eviction ban was lifted in October 2020, more than 2600 eviction cases have been filed. Now when so many are struggling, this is the time to go further for affordable housing.

How will this warrant article work with other affordable housing plans in Arlington?

Arlington adopted a Housing Production Plan (HPP) in 2016 in a step towards increasing affordable housing in the town. The HPP specifically references amending zoning to "allow and provide incentives for development of a broader range of housing types, target development of particular housing types to agreed-upon locations, and encourage development of housing that is affordable to a range of household incomes (p. 59).

The HPP specifically suggests amending Arlington's inclusionary zoning bylaw to increase the percent of affordable housing required (p. 62). The HPP suggestion differs from this proposed warrant article in that the HPP recommends increasing the affordable housing minimum AND adding another tier of affordability for households earning 80-120% of AMI.

Will this warrant article reduce incentives for developers to build more housing?

Often, the argument against raising earmarks for affordable housing in private developments is that it is too expensive to build and difficult for developers to recoup those expenses as well as they can with the building of market rate housing. Thereby, the assertion goes, raising affordable housing earmarks in market rate/private developments creates a disincentive to building more housing altogether.

This dilemma is by design. It is the product of an intentional devaluation of not just affordable housing, but of the lower income people who need it to live (and those demographics who disproportionately comprise the lower income distribution--that is, single women and femmes, Black and brown people, LGBTQIA+ folks, and people with disabilities). In other words, these policies are borne out of biases that need to be challenged. Policies can change when policymakers shift their values and priorities. If and when we make a conscious effort to value low income families and individuals and prioritize their housing security, policies can be authored and implemented that will support the creation of *genuine* affordable housing with adequate subsidies and financial incentives.

To that end, at the end of 2020, the U.S. Congress passed a stimulus bill that included a change to the Low Income Housing Tax (LIHT) Program that changed the floor rate to 4 percent, divorcing the program from borrowing rates set by the Treasury Department. This in turn raises the value of LIHT credits, as it offers a reduction on federal income taxes for 10 years based on the new floor rate. As noted by Jolie Milstein, president and CEO of the New York State Association for Affordable Housing: "In the coming months, we need *every level of government* to build upon this positive step and enact smart policies that stimulate the long-term production of affordable housing and keep struggling renters in their homes right now."

Doesn't creating more market rate housing in and of itself help lower income people and advance racial equity by increasing supply to meet demand and lowering overall housing costs?

No. The supply-demand argument ignores the role that housing speculation has played in rapidly increasing rents. As noted by Rice University urban planning professor Bill Fulton in the July 2015 issue of the journal *California Planning & Development Report,* market-rate housing often "actually creates its own demand." And while some have asserted that falling rents due to an increase in open units in metro areas as a fallout of the pandemic validate the supply-demand argument, this overlooks the reality that the bulk of these rental price drops (which have primarily occurred in urban cores, not in suburban towns like Arlington) have not brought the vast majority of rental prices into ranges that are actually accessible to most lower income people. *In short, this is a "trickle-down" affordable housing strategy that fails those in the lowest income distribution.*

Not even considering COVID or the fluctuations of supply-demand, most peer review studies find that rental prices are not significantly impacted by the creation of market rate housing; in fact, in the short term, some studies have shown building more market rate housing increases local rental prices that spur gentrification and displacement on the neighborhood level. By contrast, it is the creation of affordable housing that is often found to help stabilize rental rates in a given area. Specifically, a displacement study conducted by UC Berkeley concluded that subsidized housing ***has over double the impact of market-rate units*** in reducing displacement as compared to market-rate development. The study also noted that: "After evaluating the impact of market rate and subsidized housing built in the 1990s on displacement occurring in the 2000s...*market-rate development [had] an insignificant effect..."*

Don't we need more housing that caters to middle-class demographics and more "workforce housing"--for people like police officers, teachers, and firefighters?

The so-called "missing middle" argument makes many false assumptions about who lives in and needs affordable housing. Specifically, when we defer to the need for "workforce housing" as a rebuttal to calls for more lower income housing, we reinforce the dangerous myth that people who live in affordable housing do not work, or if they do, their jobs are not as valid or as valuable to our society or economy as middle-class jobs. As pointed out by BIPOC housing activists, the "all housing matters" response to calls for more affordable and low income housing

is the equivalent of the “All Lives Matter” response to the assertion that “Black Lives Matter” (especially as those more likely to need affordable housing are often BIPOC and our market rate rents are set well above the AMI for Black and Latinx households in the Boston metro area).

Approximately, 40% or more of residents in most affordable housing are part of our workforce and those who cannot work due to disability or age, or other extenuating circumstances (such as being a caretaker) are just as worthy of housing as any other demographic and their need for housing is greater as there are no incentives on the private market to provide for them.

As explained by Tori Bourret of the National Low Income Housing Coalition, creating more affordable housing for low income renters removes more of them from competing in the private market, thereby freeing up many of those units for middle income renters, while also stabilizing rental prices in a given area in ways that directly benefit middle income renters and contribute to them being less rent burdened. Due to a serious lack of genuine affordable housing in Arlington and the larger metro area, lower income populations are often forced to rent on the private market and are therefore usually severely cost-burdened, paying 50% or more of their income to rent, forcing them to forego other necessities like food or heat in the winter.

Furthermore, many of the job positions cited by the Redevelopment Board as worthy of consideration for “workforce housing” are actually compensated at levels that would qualify those workers for affordable housing under the 70% AMI index by which we define affordable housing earmarks in private market rate developments in town. According to the 2018 salary report for the Town of Arlington, a quick count reveals there are nearly 100 teachers and instructors employed in the Arlington Public School system making at or under $62,720 (which is 70% AMI for a single family household).

Won’t this bill incentivize developers to choose 40B projects instead, so that we wind up with more unpopular housing projects like the Mugar/Thorndike one currently being debated in Town?

No. Some people have floated the theory that by raising affordable housing earmarks in private developments to a level on par with what is required with 40B housing projects, developers will primarily/solely opt for 40B instead as there are usually less zoning restrictions to contend with and it would in turn lead to more projects like that proposed on the Mugar wetlands. This argument fails to look at the kind of developers that often opt for private development projects, especially of smaller and “mission driven” scale, versus many 40B developers. It also ignores that if passed, this warrant would make private developments competitive with 40B projects on affordability as often 40B is touted as preferential for having higher affordability earmarks.

We believe valuing meaningful affordable housing earmarks in *all* housing projects is a net win for our community. If there are concerns that private developments at higher affordability earmarks would be overlooked in favor of 40B, then it is the collective responsibility of our community to offer more incentives and subsidies to fund affordable housing opportunities in

private developments in ways that make them more attractive than 40B. Additionally, according to state law, once 1.5% of our developed landmass is inhabited by affordable housing, the Town of Arlington can declare “safe harbor” from potentially ecologically destructive 40B projects that increase our climate-associated heating and flooding risks. Currently, we are at 1.37% and it is almost certain that with the current housing projects approved for development, we will reach the threshold 1.5% in the very near future. In fact, had Arlington prioritized affordable housing earlier on, we would have by now surpassed the 1.5% threshold and not have the controversial Mugar project to contend with. Even if the Thorndike property is rejected, the remaining projects due from the Housing Corps of Arlington and on the former Mirak dealership should bring us close to or potentially over the 1.5% threshold, after which we can have more freedom to focus on affordable housing projects that get us to the mandated 10% affordability (and hopefully beyond) that do not threaten environmentally-sensitive habitats and/or disproportionately risk lower income residents’ public health.

Finally, while it bears emphasis again that this warrant only impacts and is concerned with private development, it is important to acknowledge that while flawed and in dire need of reform, 40B can and has been used both in Arlington and elsewhere in the Boston metro area and the state to fund much-needed affordable housing units in the absence of viable alternatives. However, 40B’s flaws are yet another reason why we need to shore up alternatives in creating more affordable housing through other avenues, such as through meaningful increases in our private development IDP.

What do local housing advocates/advocacy groups say?

Arlington Human Rights Commission, Connor Ring, an Arlington resident and volunteer for Citylife/Vida Urbana addressed this issue: “If you're going to increase the density along Mass Ave or along Broadway you have to bake in provisions that say ‘yes you can build but you have to have to build X number of units as affordable.”

Alex Ponte-Capellan, community organizer at City Life/Vida Urbana said, “We can’t just build our way out of this problem, we need to protect the people who are there now.”

The Coalition for a Truly Affordable Boston: “82% of new housing is market-rate, many with rents of more than $3000-4000 a month...We need to stop allowing massive amounts of unaffordable development that leaves out Boston residents, furthers inequality and racism, and destabilizes our communities...And to do that, we must strengthen the IDP! That is why we are fighting for an IDP that requires developers to make **1/3 of new housing truly affordable.”**

Black Response Cambridge: “...upzoning without strategic government intervention rooted in a community process serves to reinforce the underlying failures of zoning, resulting in further segregation and race and class stratification...We have not yet felt the full harshness of the impending Covid recession, and affordable housing is at the forefront of our minds in discussions regarding zoning. We need to be talking about the role that housing plays in maintaining inequality...As they say, history doesn’t repeat, but it rhymes.”

Article #45 Redevelopment Board 3/15/21

What would this article do?

The current zoning bylaw requires 15% of housing in any development of 6 or more units to be affordable to low-income households earning no more than 70% AMI for homeownership units ($67,750 for a family of four) and 60% of AMI for rental units ($67,200 for a family of four).

This warrant article would amend the zoning bylaw to increase the proportion of affordable housing units from 15% (one in six units) to 25% (one in four units).

Why increase the rate?

- **We are way behind on affordable housing goals and the need for housing in the area is Very high**
- Increasing % of affordable housing required in zoning bylaws is one of the recommendations in Arlington's House Production Plan

Why 25%?

- Fenway Community Development Corp. and other Boston activists organizing to increase Boston's IZP to **33%** affordable housing to meet the need.
- 25% would not cover all of the need, but would make Arlington a leader in Inclusionary Zoning compared to neighboring communities

Arlington is far from meeting affordable housing goals

- Goal for Massachusetts communities is 10% affordable housing. Arlington is at just **5.7%**
- From 2001 to 2018, Arlington increased its subsidized housing inventory percentage by just **0.1%**
- Our neighbors are doing a much better job:
  - Belmont 6.5%
  - Cambridge 14.8%
  - Medford 7.2%
  - Somerville 9.7%
  - Lexington 11.2%

Housing needs in MA

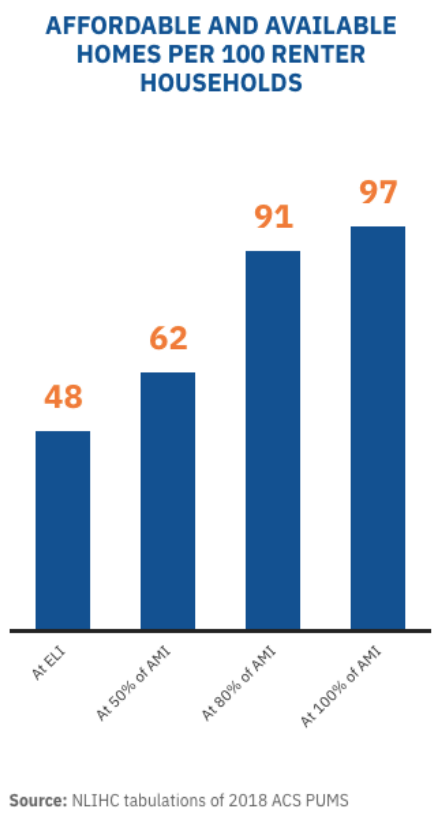
FACTS ABOUT **MASSACHUSETTS:**

STATE FACTS	
Minimum Wage	$12.75
Average Renter Wage	$21.74
2-Bedroom Housing Wage	$35.52
Number of Renter Households	968,213
Percent Renters	38%

MOST EXPENSIVE AREAS	HOUSING WAGE
Boston-Cambridge-Quincy HMFA	$44.44
Dukes County	$33.23
Nantucket County	$33.06
Lowell HMFA	$29.50
Brockton HMFA	$29.38

MSA = Metropolitan Statistical Area; HMFA = HUD Metro FMR Area.
*Ranked from Highest to Lowest 2 Bedroom Housing Wage. Includes District of Columbia and Puerto Rico.

OUT OF REACH 2020 | NATIONAL LOW INCOME HOUSING COALITION



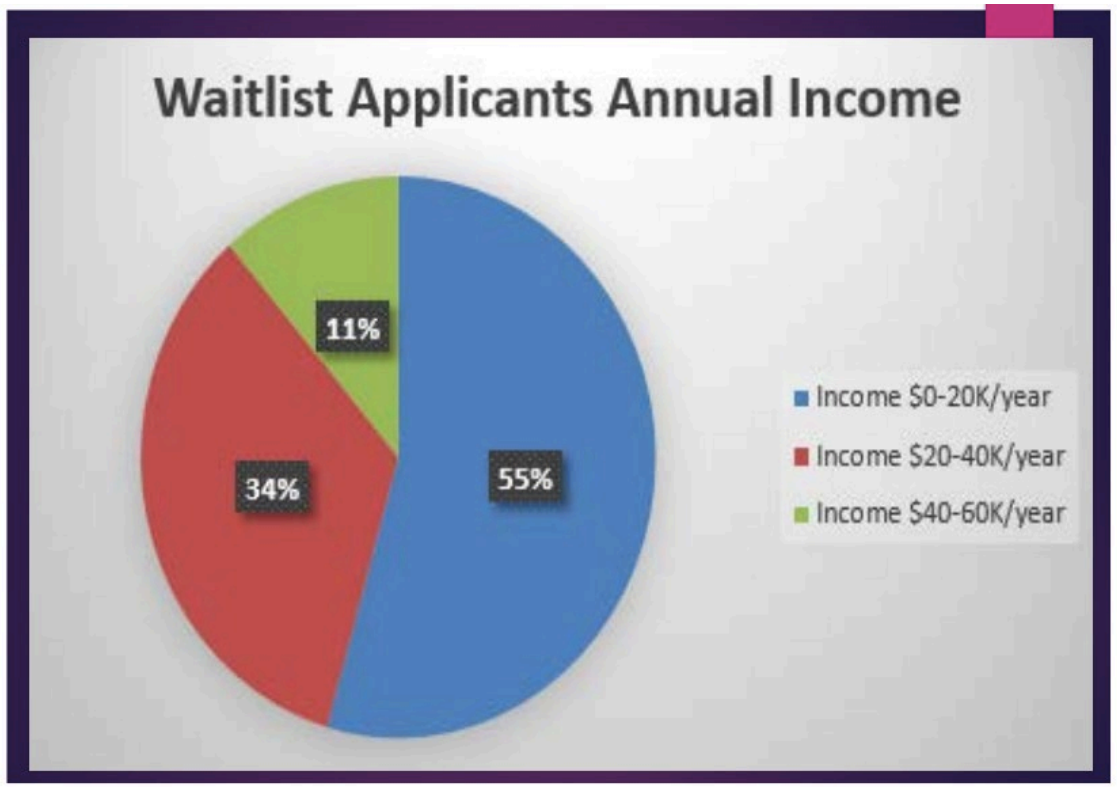
Source: NLIHC tabulations of 2018 ACS PUMS

Housing needs in Arlington

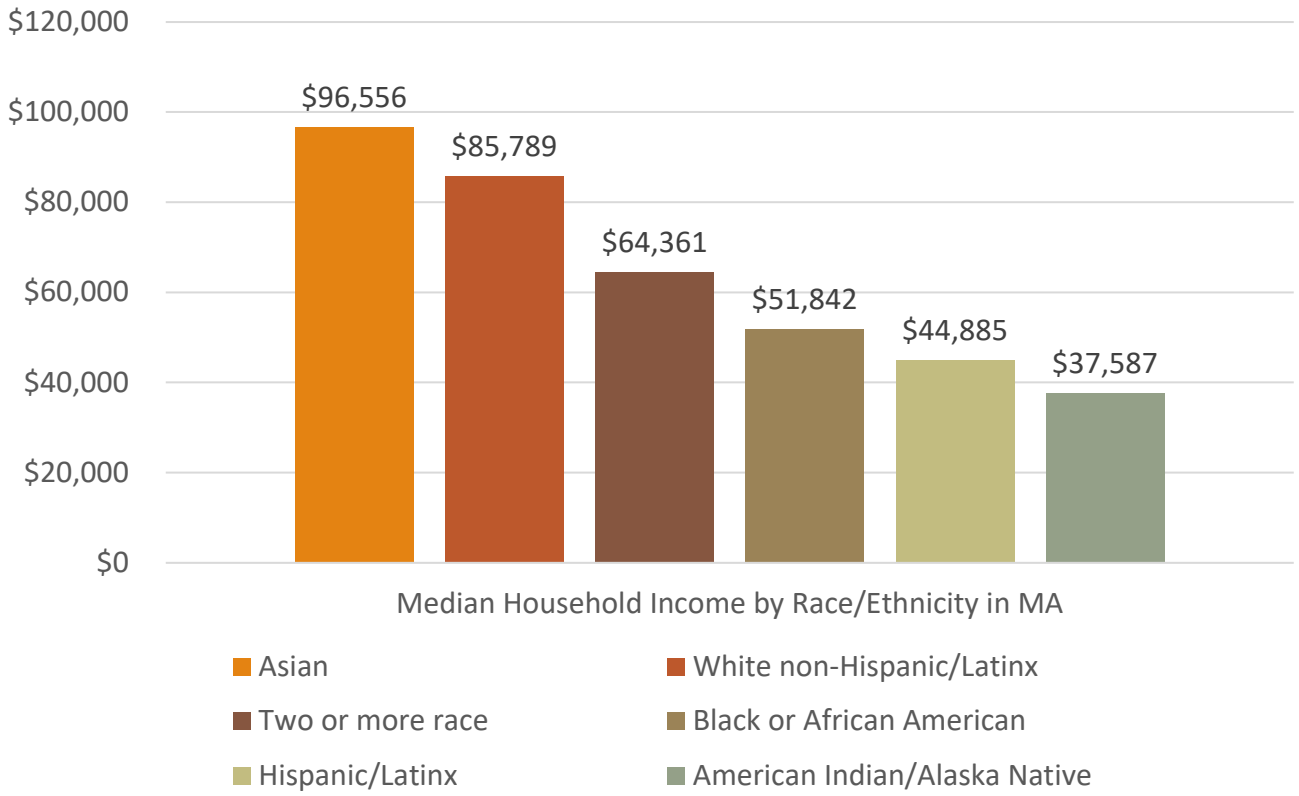
The town has 1,121 deed-restricted affordable units, but there are about 5,185 potentially eligible households (2016, HPP)

Out of the 700+ people on the AHA waitlist, the vast majority make $40K or less

(Source: Arlington 2018 Housing Forum, https://www.arlingtonma.gov/home/showdocument?id=43329)



Median income by race/ethnicity



80% AMI in Boston Metro Area is **$67,400** for one person, **$77,000** for two people, and **$96,250** for four

Arlington's median household income is even higher: **$113,093**

Housing needs in Covid-19

- Massachusetts lost 337,900 jobs from November 2019 to November 2020. (Source: Bureau of Labor and Statistics)
- In August 2020, more than 315,000 Massachusetts residents were not confident that they would be able to afford their rent payments, with Black and Latinx tenants most concerned about their ability to pay. (Source: Census Bureau survey)
- Since Governor Baker's eviction ban was lifted in October 2020, more than 2600 eviction cases have been filed.

Effect of 15—25% change

- Housing developments 2011-2021 (not including 40B)
  - 15% affordability = 110 affordable units
  - 25% affordability = 140 affordable units
  - Overall 27% increase in # of affordable units

Will this stifle development?

- Low Income Housing Tax (LIHT) Program gives developers tax incentives to create affordable housing. Taxpayer Certainty and Disaster Tax Relief Act of 2020 raised the minimum credit for LIHT, increasing incentives.
- Disincentives for affordable housing are by design. **Policies can change when policymakers shift their values and priorities!**

Creating more affordable housing helps moderate-income renters too!

- Insufficient supply of homes available for the lowest-income people means that they have to compete with middle-income renters, who then have to compete for market-rate housing. Everyone becomes cost-burdened by rent.
  - "In Arlington, there are approximately 320 modest ownership units that would be affordable to low- or moderate-income homebuyers, but 82 percent are owned and occupied by households with middle or higher incomes." – From 2015 Arlington Master Plan
- Without enough affordable housing to balance out new market rate housing, the area median income goes up and rents rise for everyone.
  - When Arlington's AMI increases, this raises the AMI for the whole Boston metro area as well
- Subsidized housing *has over double the impact of market-rate units* in reducing displacement as compared to market-rate development. (Source: UC Berkeley report, 2016)

Endorsements

- City Life/Vida Urbana
- The Boston Tenants Coalition
- The Disability Policy Consortium
- Boston Center for Independent Living

Article 45 – Additional Supporting Links

Coalition for a Truly Affordable Boston: https://www.affordableboston.org/building-for-all-residents-fixing-the-mismatch-of-new-housing

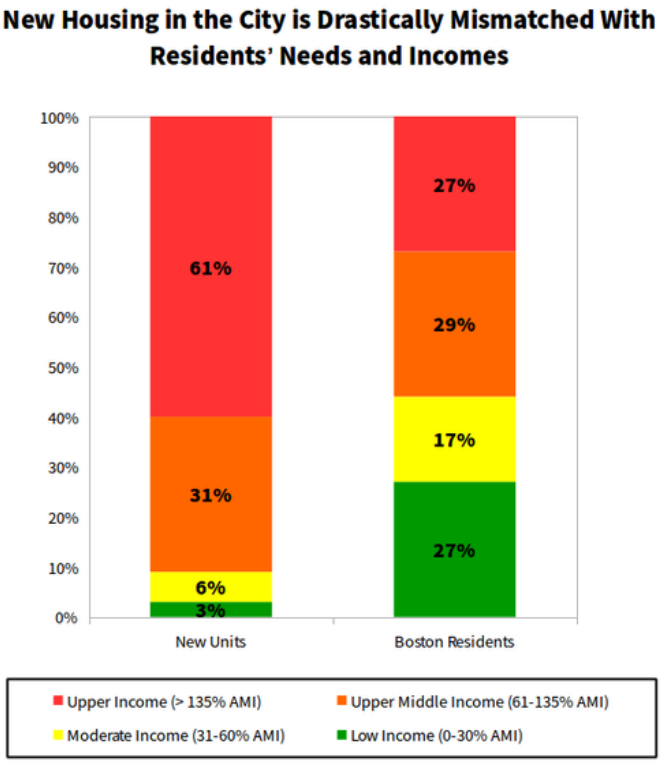
A GAO report on a lack of affordable housing in the country and its disproportionate impacts on low income people: https://www.gao.gov/products/gao-20-427

https://www.cambridgeday.com/2021/02/15/black-response-cambridge-on-upzoning-petition-missing-middle-fails-for-housing-affordability/

https://www.wbur.org/bostonomix/2018/09/13/massachusetts-income-poverty-inequality

https://static1.squarespace.com/static/566ee654bfe8736211c559eb/t/5d3b119100e485000184039b/1564152209836/ACTION-NATIONAL-2019.pdf

NEW HOUSING THAT MEETS COMMUNITY NEED: Let's build a truly affordable Boston for all residents.



We need the IDP to require developers to make **1/3** of new housing **truly affordable**, because the current rule is fueling a drastic mismatch between new housing and community need.

Only 9% of new housing is Boston is being built for low and moderate income residents who make up almost half of the City. And only 3% is affordable to the lowest-income households facing the most need.

These numbers would increase dramatically if we start requiring 1/3 of housing in private developments to be truly affordable. 13% is not enough! And the 13% is not even truly affordable because the IDP focuses on higher income levels, meaning that almost **no** units built by private developers are affordable to 44% of Boston.

Here are more details:

- From January 1, 2011 to Auguts 21, 2019, there have been 31,931 units built or permitted in Boston.
- The City measures the affordability of a unit based on household income, which is measured using a statistic called “area median income” or AMI. (This statistic is not a real measure of the incomes of Boston, people of color, or renters — read more details here.)
- 44% of Boston’s households are what we call low and moderate income, making 0-60% AMI (0-60% of the area median income). This includes individuals making up to $47,600, and families of 4 making up to $68,000. But only 9% of new housing in Boston is affordable for these households. And the IDP requires **0%** of new housing at these income levels, because it requires housing for households making up to 70% AMI.
- The households with the most need — facing the highest risk of displacment and paying most of their income on housing — make even less. 27% of Boston’s households make 0-30% AMI. This includes individuals making up to $23,800, and families of 4 making up to $34,000. But only 3% of new housing in Boston is affordable at these income levels!
- 82% of new housing is market-rate, many with rents of more than $3000-4000 a month. The City’s analysis of new housing built between January 1, 2011 to June 30, 2017 estimated that about 61% of new housing is only affordable to households making over 135% of area median income ($107,100 for an individual or $152,950 for a household of 4).

We need to stop allowing massive amounts of unaffordable development that leaves out Boston residents, furthers inequality and racism, and destabilizes our communities. Instead, we need to keep our city diverse and welcoming to all.

And to do that, we must strengthen the IDP! That is why we are fighting for an IDP that requires developers to make **1/3 of new housing truly affordable.**

Rental Housing:
As More Households Rent, the Poorest Face Affordability and Housing Quality Challenges

GAO-20-427

Published: May 27, 2020. Publicly Released: Jun 26, 2020.

Jump To

HIGHLIGHTS FULL REPORT GAO CONTACTS

Fast Facts

The 2007-09 financial crisis resulted in millions of foreclosures and demographic changes—making renter households more common. We looked at declining rent affordability since then, but before COVID-19.

Rent burden was most common and most severe among lower-income households, with most of the poorest households paying over half of their income to rent. Affordability has declined because the supply of low-cost rental units hasn't kept up with demand.

With more competition for affordable rentals, low income and rent-burdened households in 2017 were more likely to have to rent units with issues like water leaks, rodents, or heating problems.



Source: Pond5; Vitalii Vodolazskyi | www.gao.gov

Multimedia

Podcasts

Rising Rents and COVID-19

00:00 / 05:08

Transcript



Blog Post

What can the Great Recession teach us about rent affordability in the age of Coronavirus?

TUESDAY, JULY 7, 2020

The Coronavirus Aid, Relief, and Economic Security (CARES) Act provides relief to some homeowners...

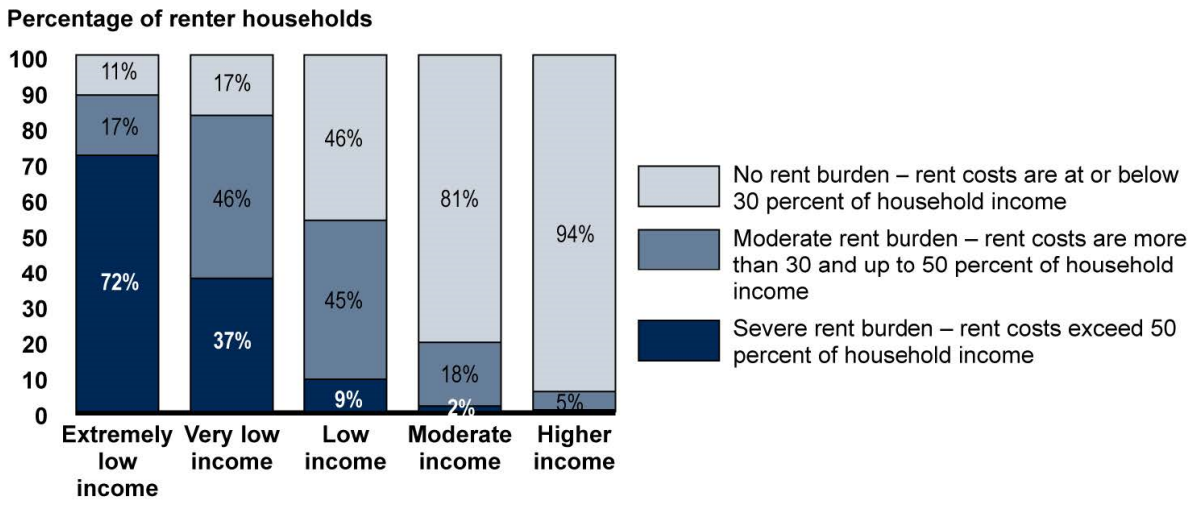
Highlights

What GAO Found

In 2017, almost 7 million more households rented their homes than in 2001, which brought the share of households that rent from an estimated 34 percent to 36 percent. Renting became more common after the 2007–2009 financial crisis as foreclosures and changes in household characteristics reduced the proportion of homeowners. Renting was more prevalent across most age and race/ethnicity groups in 2017 than in 2001, with notable increases among higher-income households.

Rental affordability declined from 2001 to 2017. In 2017, 48 percent of renter households were rent burdened—that is, they paid over 30 percent of income for rent—which is 6 percentage points higher than in 2001. Rent burden was most common and most severe among lower-income households (80 percent or less than area median income), with almost three-quarters of extremely low-income households (30 percent or less than area median income) paying over half of their income in rent (see figure). Affordability declined because of a range of factors, including more households competing for rental units and the supply of low-cost rental units not keeping up with demand.

Estimated Percentage of Renter Households with Rent Burdens by Income in 2017



Source: GAO analysis of American Community Survey data from the Department of Housing and Urban Development. | GAO-20-427

Note: Estimates in this figure have a margin of error of ±2 percentage points or fewer, at the 95 percent confidence level.

An estimated 15 percent of rental units in 2017—more than 5 million—had substantial quality issues (such as cracked walls and the presence of rodents) or lacked essential components of a dwelling (such as heating equipment or hot and cold running water), according to GAO's analysis of American Housing Survey data. The share of units with deficiencies was relatively stable from 2001 to 2017. Serious deficiencies more often affected households with extremely low incomes or rent burdens. In addition, lower-income households rented approximately two-thirds of the units with substantial quality issues and nearly 80 percent of units lacking essential components.

Why GAO Did This Study

Since the 2007–2009 financial crisis, growth in the share of renter households has reversed a decades-long trend toward homeownership. This change has underscored concerns about the availability, affordability, and condition of



Blog Post

Racial Disparities in Federal Employment, Lending, and Housing

WEDNESDAY, JULY 1, 2020

Over the past several years, GAO has been asked to examine various racial inequalities in economic...

rental housing, especially for low-income households. The federal government subsidizes rents for around 4.4 million households per year, but more households qualify for assistance than receive it.

GAO was asked to provide a comprehensive assessment of the housing market. This report examines trends in the housing market prior to the COVID-19 pandemic and does not account for the profound impact it will likely have on renter households. This report, one of several GAO plans to issue, focuses on rental housing from 2001 through 2017 and analyzes (1) the share of households that rent, (2) the affordability of rental housing, and (3) rental housing conditions. GAO analyzed American Community Survey and American Housing Survey data from 2001 through 2017 (the most recent data available at the time of this review) at the national level and for different types of localities. GAO also reviewed recent reports by the Department of Housing and Urban Development (HUD), research organizations, and academic researchers on rental housing and obtained views from a variety of stakeholders selected for their knowledge of these issues, including federal agency officials, academic experts, research organizations, and industry groups.

For more information, contact Daniel Garcia-Diaz at (202) 512-4529 or garciadiazd@gao.gov.

Full Report

Full Report (96 pages) Accessible Text (115 pages) Highlights Page (1 page)

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Black Response Cambridge on upzoning petition: 'Missing middle' fails for housing affordability

By Stephanie Guirand
Monday, February 15, 2021
Last revised on: Wednesday, February 17, 2021



Cambridge construction spotted in October. (Photo: Marc Levy)

Asking for-profit developers to fix the affordable housing problem is like asking an arsonist to put out their own fire. What is their incentive?

OPINION

For-profit developers know what we all know about Cambridge: It is a playground for liberal elites. We have Harvard, the Massachusetts Institute of Technology, Google, Microsoft and Amazon in one city of 100,000 residents. No wonder

single-family house prices are in the millions. The recent "missing middle" upzoning petition led by for-profit developers does not result in the housing that we, The Black Response Cambridge, want to see. Furthermore, upzoning without strategic government intervention rooted in a community process serves to reinforce the underlying failures of zoning, resulting in further segregation and race and class stratification.

As The Black Response Cambridge, we cannot neglect the racist roots of zoning in the United States. Richard Rothstein states in "The Color of Law": "Segregationist officials faced two distinct problems ... how to keep lower-income African Americans from living near middle-class whites and how to keep middle-class African Americans from buying into white middle-class neighborhoods." Zoning ordinances have been used as a tool to maintain race and class separatism.

News to your inbox. Subscribe to the Cambridge Day newsletter.

Inclusionary zoning, while good, is not good enough. The barrier of entry is too high. The area median income for Cambridge is over $95,000. The barrier for entry into inclusionary zoning is at 60 percent to 80 percent of that – with a Section 8 voucher, it is 30 percent to 60 percent; and for the missing middle proposal, households earning between 80 percent and 120 percent of AMI. At 20 percent of units in larger developments, the inclusionary zoning program does not produce the amount of "affordable" housing needed to keep up with demand.

Furthermore, the program does not provide a steppingstone for low-income families to escape the trap of low-income housing. So why not create a program for nonprofit and cooperative developers to have priority? Why not make all inclusionary housing a rent-to-own program? This would help low-income residents build equity and create intergenerational wealth through the purchase of a home of their own. (We know the city has first-time home buyers programs.)

In our conversations with allies at the Cambridge Residents Alliance, they've said, "The increase in land values will make it much harder for the Affordable Housing Overlay to result in affordable housing. The point of the AHO was that you can build more affordable housing on a lot than you can build market housing. If the advantage for affordable housing is lessened, we will get less of it." The missing middle proposal is likely to raise land values because more units will be built on the same parcel. "Affordability" is a convenient catchphrase to mask the increased profitability for the developer without real consideration of the consequences of these developments.

Many have voiced concerns about the upzoning petition because it will "increase the density of housing in the neighborhood." While this is not our primary concern, the environmental impacts of more development will disproportionately affect Black and Brown low-income residents without providing long-term, sustainable and affordable housing options. For example, the current proposal provides no mandate for the preservation of existing facades, which increases the chances of bulldozing. As we know from discussions about rats and other rodents in Cambridge, drilling and bulldozing drives rats to nearby residences, including public housing developments. The proposal would also result in less open and green spaces than we have now. The reduction in green-space disproportionately affects the health and welfare of the lowest-income members of the Cambridge community. The streets with more pavement and fewer trees are the hottest during the summer months. The health impacts are significant too, considering the amount of young people in the projects who live with asthma.

The density issue is not our primary concern at the moment. But this upzoning increases density without providing truly affordable housing. At the end of the day, we are most concerned about the lack of truly affordable housing in Cambridge. We have not yet felt the full harshness of the impending Covid recession, and affordable housing is at the forefront of our minds in discussions regarding zoning. We need to be talking about the role that housing plays in maintaining inequality. Zoning today is a tool of the wealthy. As they say, history doesn't repeat, but it rhymes. Zoning can be reduced to a tool that reproduces racial and socioeconomic class oppression. We look forward to having discussions that will improve the lives of low-income Black and Brown Cantabrigians. Let us know when you put forward petitions that favor upzoning by nonprofit developers and cooperative owners to house low-income populations, and when you propose rent-to-own (locally sourced) public housing.

Unfortunately we won't be holding our breaths while waiting for that call.

Stephanie Guirand is a member of The Black Response Cambridge, a coalition of Black members from Black-led, Cambridge-based organizations formed to represent the voices of Black communities in Cambridge.

This post was updated Feb. 17, 2021, with changes requested by the author.

Development, affordable housing, class, race, zoning



9 Comments

Sam Noubert on Monday, February 15, 2021 at 8:18 pm

FINALLY someone saying something sensible about the housing situation in Cambridge.

None of the current proposals address the trap of affordable housing. Until viable rent-to-own options are available it is yet another transfer of wealth from the public to the private sector.

Unless of course we just give pot shops to all....that should solve the problem.

pete on Monday, February 15, 2021 at 10:58 pm

We might have "missing middle" zoning competing with AHO for available land and buildings that could be turned into rent-to-own. I agree that the qualifying salaries for most plans are way too high. And while we are carving out categories for particular populations, why don't we add senior housing to the list of tidy little check boxes. Seniors need housing as much as missing middle. MM has a better shot at rents than either working poor or seniors.

projectfabrizio on Tuesday, February 16, 2021 at 5:34 am

Thank you for this insight and well articulated points of view.
Cambridge already has a "Middle" that needs strengthening.
Lower residential areas, which includes conservation districts, house the most affordable residences for both renters and yes even those who have access to liquidity for purchase properties. While not cheap by any standard, per sq/ft the high residential developments are way less accessible to the most.
Strengthening the lower residential base, with its ability to provide a wide range of access points into residing, when not owning, in Cambridge, would stranghten a middle we should foster and not bulldoze.
CoVid highlighted the need for streetscape experiences that are safe to share, with safe walkable streets, parks and tree canopy.

in the last few months the higher residential complexes suffered the harshest vacancies in decades, while our "Middle" was thriving with social interactions aimed at providing a common space to wade these harsh times together.
Lower residential areas cater to the most and not the few, are our main street development encroached by the "Wall street" propaganda.
Besides building more affordable housing, we should also make sure people can afford the homes we build, perhaps by providing these classes of disenfranchised people true opportunities, beyond the smokescreens.
Thank you again!

Angstrom on Tuesday, February 16, 2021 at 6:26 am

Without going in to too much detail, three things:

1. To say that this petition is "led by for-profit developers" is blatantly false.

2. While the missing middle housing petition is not an affordable housing petition (it's not trying to solve every problem all at once, just some problems!), it will help with affordable housing. The City has an affordable homeownership program, Homebridge, but a big problem with it is that the city cannot help people buy million-dollar homes, and there are not a lot of sub-million-dollar homes out there in Cambridge. "Missing middle housing" is much more likely to go for sub-million-dollar prices. If the City had a rent-to-own program (sounds like a good idea!), it would have the same problem – to be effective, the units would have to not be extremely expensive.

3. The petition authors HAVE discussed with NONPROFIT affordable housing developers, who have expressed support and said that they do not see the missing middle housing petition as likely to undermine the AHO. Affordable housing developers prefer large building sites, and this petition primarily will affect small building sites (in addition to the fact that this petition does not allow for nearly as much density as the AHO does).

I hope the author will reach out to cambridgeMMH@gmail.com to discuss more.

HeatherHoffman on Tuesday, February 16, 2021 at 11:05 am

Before I get to how much I agree with this piece, I need to point out an important factual error in it. Inclusionary housing is for the next income tier down, 50-80 percent of Area Median Income. Please fix this.

Now to the agreeing. This really bad idea comes to us courtesy of the National Association of Home Builders, as I pointed out in my public testimony when this arrived at the City Council. I do appreciate that the proponents have dropped any pretense whatsoever of caring about affordable housing because, as this piece points out, there's nothing whatsoever in it that requires anything to be affordable. In fact, it will just radically increase the value of any site amenable to its tender mercies.

The effect of that immense increase in value will be to vitiate any possibility of making use of the Affordable Housing Overlay, which now turns out to be a Trojan horse designed to stack the City Council with enough Councillors who can be counted on to fall in line reflexively for anything the real estate industry wants.

The Council has already proven itself to be eager to silence neighborhood groups who dare have their own opinions. I welcome The Black Response Cambridge and hope for the opportunity to learn from and work with them to make Cambridge a place that will continue to welcome people who rely on actual speech rather than money to speak for us.

KLwatkins on Tuesday, February 16, 2021 at 5:22 pm

I really like the rent to own idea and have been trying to get the city to build a path to low-income home ownership for years. However the city's back room deals with developers, both profit and non-profit preclude this. Frankly, the non-profit developers are run by paternalistic neo-liberals who do not listen to the voices of the residents they purport to serve. The city and these developers love giving each other awards. Housing is a human right.

Doug Brown on Tuesday, February 16, 2021 at 7:50 pm

Ms. Guirand points out a critically important issue: that the Missing Middle Housing petition may actually make the housing situation much worse for low- and middle-income residents, particularly those of color. In truth, the only way that the petition results in more mid-sized, middle-income housing is if it set new limits on maximum Gross Floor Area (GFA) allowed per unit, while simultaneously allowing more GFA per lot. It does the latter but not the former, with the likely result being that it will generate larger existing homes, not an increasing number of new smaller homes. In the end, this will further escalate land values per unit, the lowering of which was one of the stated goals of the petition. As a result, the MMH will make it more expensive both to rent and also to own, and render home ownership opportunities almost non-existent by targeting currently affordable parcels for "improvement" by for-profit developers, out-of-town landowners, and other opportunists. It may be good for current homeowners, especially older owners looking to sell, but it hurts those looking to buy by forcing them to compete with deep-pocketed investors. Thanks to Ms. Guirand for raising this important issue.

HRASHID on Wednesday, February 17, 2021 at 1:25 pm

Peace Be Unto You,

The City Municipal Policy Makers can't be trusted with handeling the affairs of the local Homeless sector and mosaic. For over 10 years I have attempted to get them to come to the aid of the homeless segment of our community by advising them to prepare the Foundry Building,Sullivan Courthouse House, And Volpe Properties for Homeless poverty housing, but to no avail. All my efforts were sent straight up to the trash. They rejected the opportunity to installed homeless housing in vacant and abandon government properties. When it comes to building permanent housing from the ground up, this the municipal policy makers are shown to be the enemies of the local homeless sector and mosaic. Not only the present City municipal policy makers but previous ones also.

Now they want the stakeholders publics at large to settle for a proposal to rent non-congregate housing for the city's unhoused population. This is only another fanatical piecemeal solution to a social problem that is in need of much much more to solve it. Take

it from me the municiple policy makers are in violation of the public trust now and for sometime in the past, when it comes to solutions for ending and erradicating homelessness. They mis-allocate the resources to do so all the time, that means often.

Oh by the way,after intense lobbying by the real estate industry, Gov. Baker vetoed "The Tenant Right to Purchase (TOPA) Provision," it would have given tenants a right of first refusal to purchase for-sale rental and multi-family properties throughout the state, with some limited exceptions.

Yours In Peace
Mr. Hasson Rashid
Concerned Citizen
Cambridge,MA

Mark Jaquith on Saturday, February 20, 2021 at 8:03 pm

Thank you Ms. Giurand for your insight on this.

Now Angstrom, your #1 shows either a pitiful ignorance of the subject or a cynical disregard for the truth. below are three web pages on the D.C. based lobbying group The National Association of Home Builders that will bear me out.

Jan. 8 article on Missing Middle
https://www.nahb.org/advocacy/industry-issues/land-use-101/What-is-the-Missing-Middle-of-Housing

Missing middle search result on home page
https://www.nahb.org/search#q=missing%20Middle&t=cove079b6ec88&sort=relevancy

BUILD-PAC, NAHB's political action committee
https://www.nahb.org/advocacy/get-involved/BUILD-PAC

Coronavirus update

Wednesday, March 10

Cases

5,035

Up 0.4% from

5,015

previous day

Deaths

121

Up 0% from

121

March 4

A better **Cambridge Day**

Please consider making a financial contribution to maintain, expand and improve Cambridge Day.

DONATE

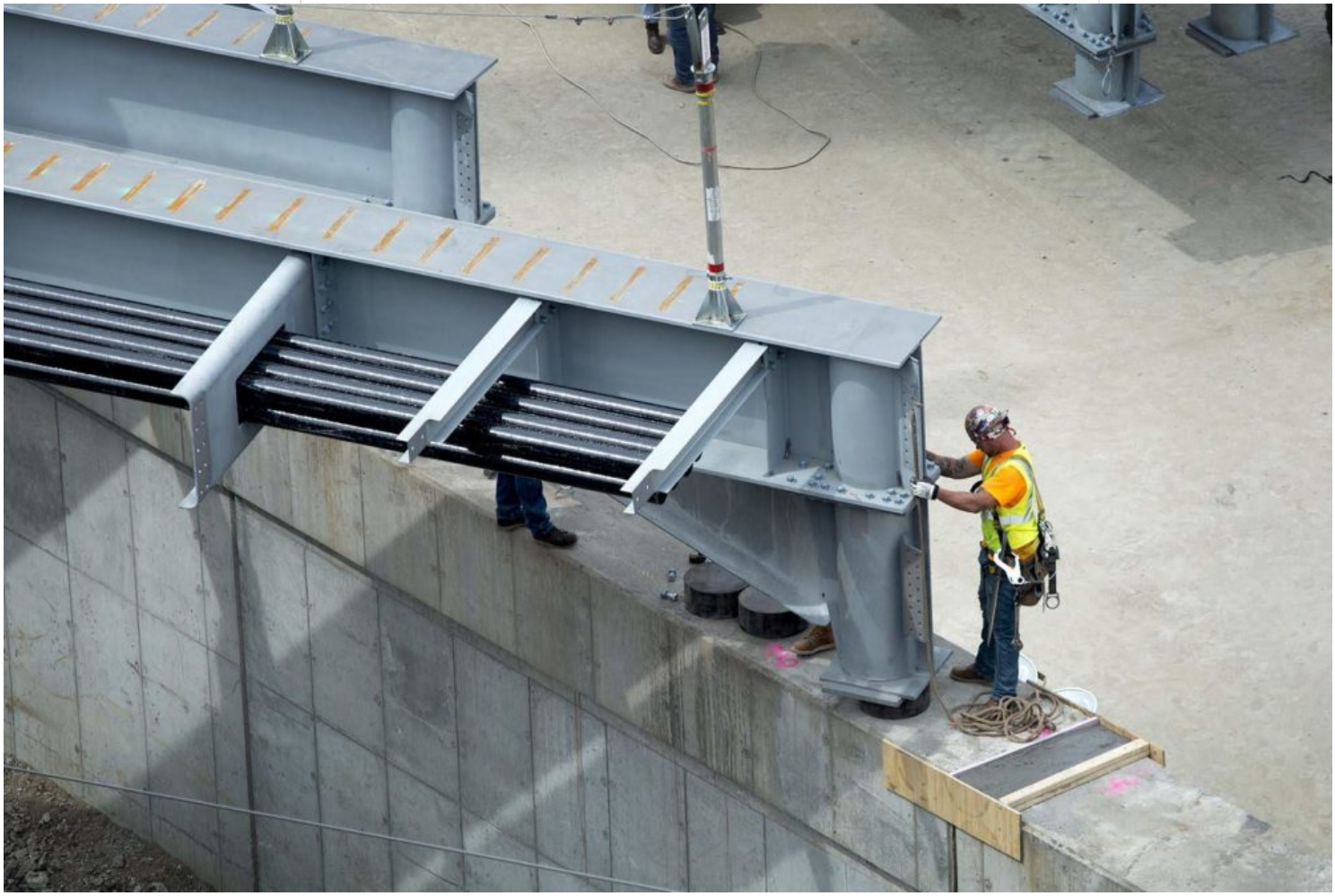
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wbur | Bostonomix

Mass. Household Income Ticked Up Just 1 Percent In 2017

September 13, 2018 | By Benjamin Swasey



A construction worker (Robin Lubbock/WBUR)

This article is more than 2 years old.

The median household income in Massachusetts ticked up 1 percent last year, rising slightly to $77,385, according to U.S. Census survey data out Thursday.

Median income, which is adjusted for inflation, increased more on the national level in 2017, rising by 2.6 percent to $60,336, according to the same survey.

Story continues below

More from WBUR



'Like A Ghost Town': Boston's Trolley Tours Now Tell Of Historic Struggles, Both Old And New

Bostonomix 05:35 Mar 10, 2021

'It Anchored Our Community': What's Lost When A Restaurant Or Bar Closes

Bostonomix Mar 10, 2021

Get up to speed on the local coronavirus outbreak and other news Boston is talking about. Add our daily newsletter to your morning routine. Sign up now.

Massachusetts' household income is among the highest in the country, behind only Washington, D.C., Maryland, New Jersey and Hawaii.

The state-level data released Thursday comes from the 2017 American Community Survey. A related but separate national-level census survey was released Wednesday.

The income growth last year represents a slowdown for Massachusetts. The 2016 survey found median household income jumped nearly 6 percent that year.

Some caveats: The data are based on surveys, so they have margins of error; there are a number of critics of the Census Bureau's methodology on income; and the one-year snapshots are not the same as wage growth, so, for instance, total income could rise as people may be more likely to work full-time hours than a prior year.

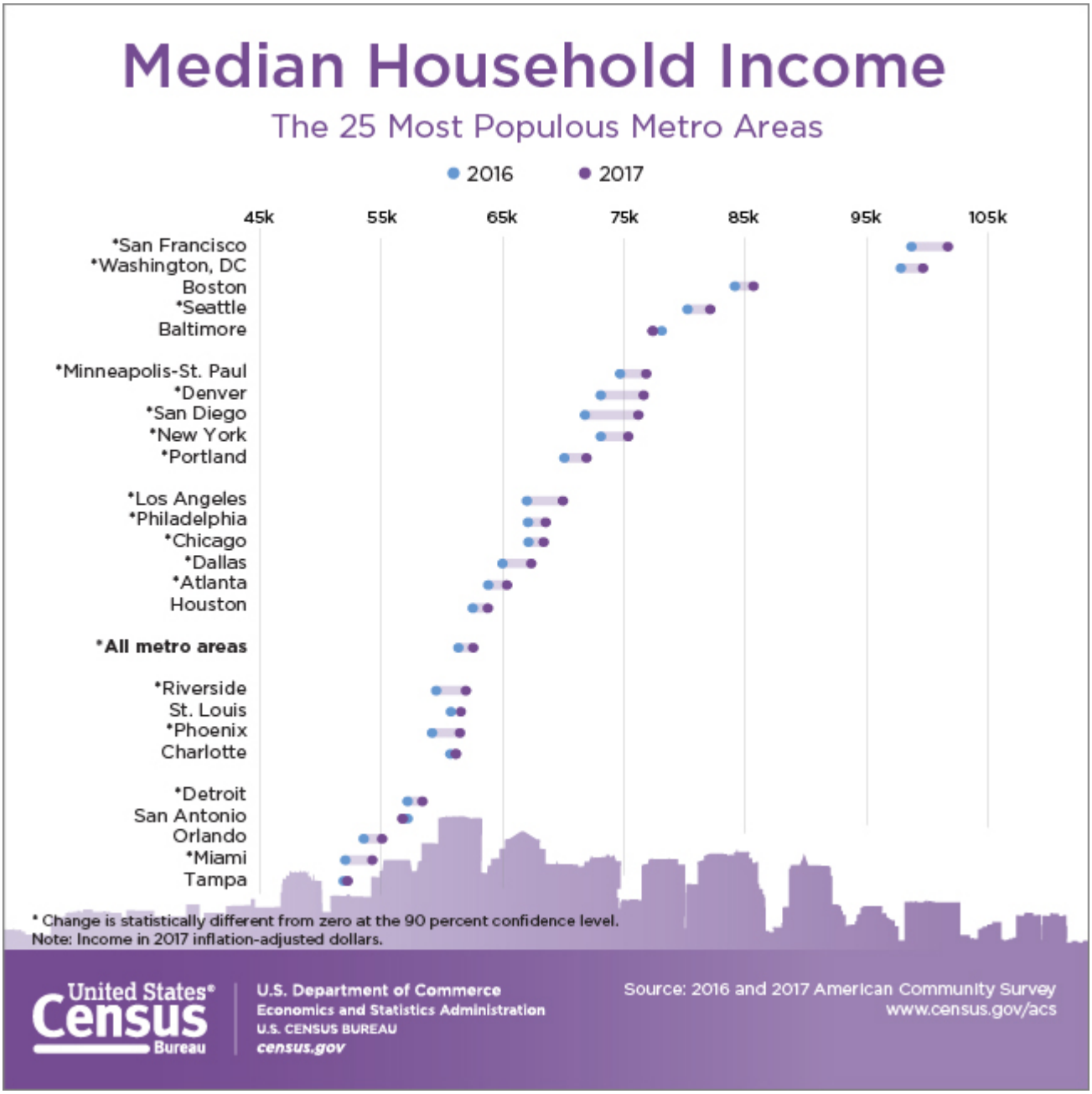
In Massachusetts in 2017, there remained big demographic disparities in income.

Here's median income among one-race households:

- Asian: $91,150
- Black or African-American: $46,925
- Non-Hispanic white: $84,988
- Hispanic or Latino: $41,995

The survey also calculated median household income among the the 25 most populous metropolitan areas.

The Boston metro area — which stretches north to southern New Hampshire — saw its median household income increase 1.8 percent last year, to $85,691. That's behind only the San Francisco and Washington, D.C., metro areas:



(Courtesy U.S. Census Bureau)

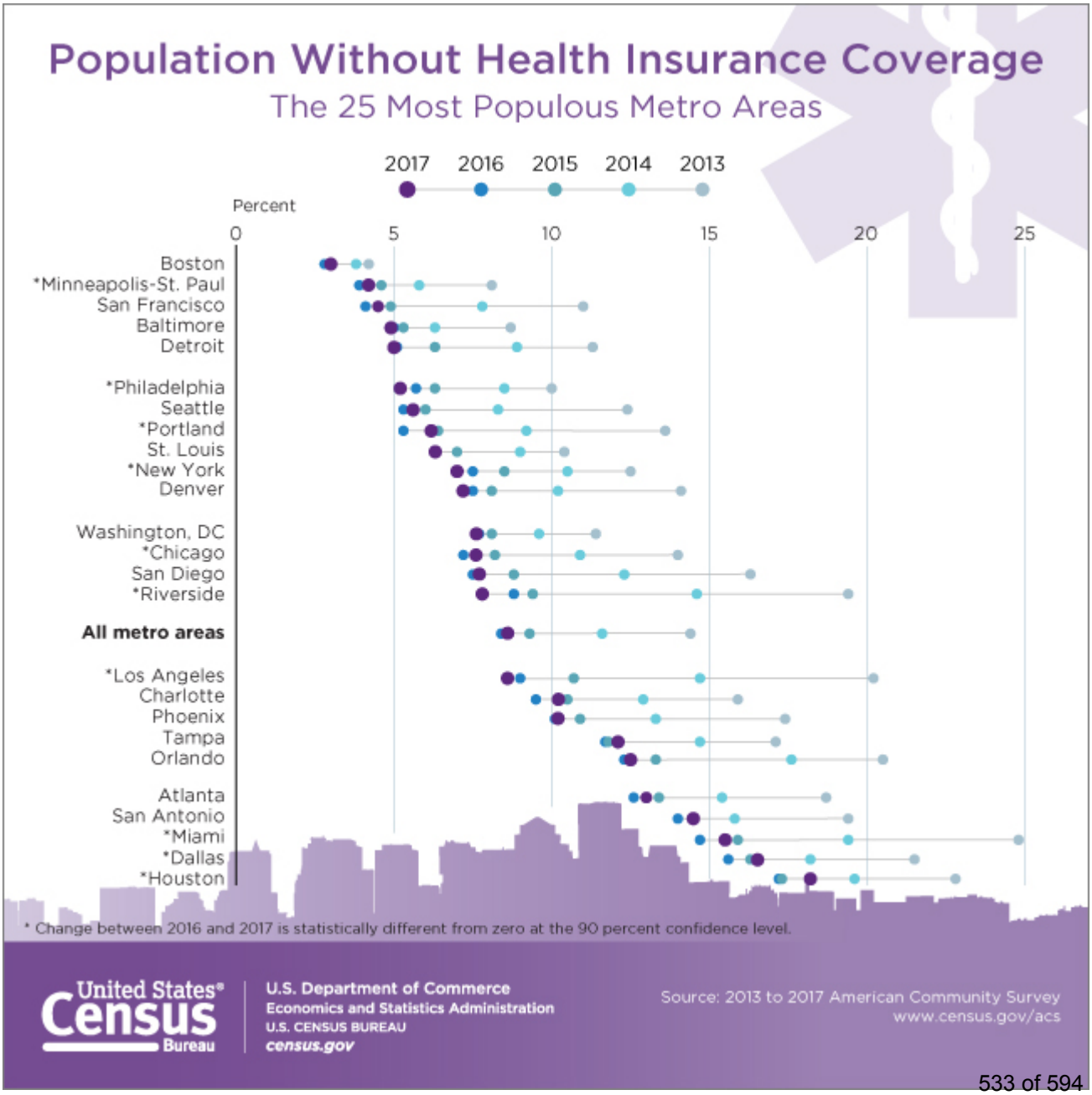
The survey out Thursday also included data on income inequality and poverty.

Massachusetts was one of four states — along with Alaska, Delaware and Pennsylvania — in which income inequality increased in 2017. That's after income inequality decreased in Massachusetts in 2016, the census found then.

The state's poverty rate remained virtually unchanged last year, ticking up 0.1 percent, to 10.5 percent — a rate lower than the national level of 13.4 percent.

And then, Wednesday's separate survey looked at health insurance coverage. The bureau found that the percentage of people in Massachusetts without insurance rose last year, from 2.5 percent in 2016 to 2.8 percent in 2017.

Among the largest metro areas, the Boston area continues to be tops in terms of health coverage:



(Courtesy U.S. Census Bureau)

Related:

- **Last Year's Report:** Mass. Household Income Jumped Nearly 6 Percent In 2016
- In 2015, The Top 1 Percent In Mass. Earned 31 Times The Average Of Everyone Else
- $15 Minimum Wage, Required Paid Leave Are Coming To Mass., After Gov. Baker Signs 'Grand Bargain'
- Mass. Economic Growth Was Tops In New England In 2017
- Report: Boston's Wide Income Inequality Narrows



Benjamin Swasey Digital Manager
Ben is WBUR's digital news manager.
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AFFORDABLE RENTAL HOUSING A.C.T.I.O.N.
A Call To Invest in Our Neighborhoods

THE LOW-INCOME HOUSING TAX CREDIT'S IMPACT IN THE UNITED STATES

THE HOUSING CREDIT'S BENEFITS FOR LOW-INCOME FAMILIES & THE ECONOMY

1986 – 2017

3.2 million homes developed or preserved

7.4 million low-income households served

3.6 million jobs supported for one year

$135 billion tax revenue generated

$344 billion wages & business income generated

THE NEED FOR AFFORDABLE HOUSING

Though the Housing Credit has had a tremendous impact across the country, much more affordable housing is still needed to meet the growing demand.

10.8 million renter households nationwide pay more than half of their monthly income on rent, leaving too little for other expenses like health care, transportation and nutritious food

In order to afford a one-bedroom apartment at the national average fair market rent, a minimum wage worker has to work **103 hours per week**

ADDRESSING OUR NATION'S SEVERE SHORTAGE OF AFFORDABLE HOUSING

384,500 additional affordable homes could be built across U.S. states and territories over the next ten years through a 50 percent increase in Housing Credit allocation authority

Last updated May 7, 2019. Visit www.rentalhousingaction.org/state-district for this fact sheet's sources and methodologies.



The Housing Credit is a proven solution to help address the affordable housing crisis.

The Housing Credit is our nation's most successful tool for encouraging private investment in affordable rental housing. It has financed over 3 million apartments nationwide since 1986, providing about 7.4 million low-income families, seniors, veterans, and people with disabilities homes they can afford.

Without the Housing Credit, it would be financially infeasible for the private sector to build affordable homes for the families that need them most.

The ACTION Campaign calls on Congress to:

- **Expand** the Housing Credit to make a meaningful dent in our nation's severe shortage of affordable housing.
- **Strengthen** the Housing Credit by making it more streamlined and flexible.
- **Enhance** multifamily Housing Bonds, which provide critical financing to about 50 percent of Housing Credit developments.

The ACTION Campaign represents over 2,200 organizations and businesses working to address our nation's severe shortage of affordable rental housing by supporting the Low-Income Housing Tax Credit.

www.rentalhousingaction.org

Town of Arlington, Massachusetts

Warrant Article Review

Summary:

9:15 p.m. Article 11 Bylaw Amendment/ Stormwater Management
Article 22 Vote/ Reserve Affordable Housing for People Earning Under 60% AMI
Article 27 Home Rule Petition/ Real Estate Transfer Fee

Board will discuss articles and provide feedback to Director to prepare a memo on behalf of Board to Select Board

ATTACHMENTS:

	Type	File Name	Description
🗋	Reference Material	Article_15_Stormwater_Bylaw_and_Regulations.pdf	Article 15 Stormwater Bylaw and Regulations
🗋	Reference Material	Article_27_Draft_Real_Estate_Transfer_Fee_03-03-21.pdf	Article 27 Draft Real Estate Transfer Fee 03-03-21

TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

To: Jennifer Raitt, Director, Department of Planning and Community Development

From: Emily Sullivan, Environmental Planner & Conservation Agent

CC: Erin Zwirko, Assistant Director, Department of Planning and Community Development
Michael Rademacher, Director, Department of Public Works
Wayne Chouinard, Town Engineer
Bill Copithorne, Assistant Town Engineer

Date: March 11, 2021

RE: Bylaw Amendment/Stormwater Management Warrant Article for 2021 Annual Town Meeting

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A Warrant Article to amend Article 15 Stormwater Mitigation of Town Bylaw Title V Regulations Upon the Use of Private Property has been submitted by the Arlington Engineering Division of the Department of Public Works (DPW) and Department of Planning and Community Development (DPCD). The Warrant Article was originally submitted for 2020 Annual Town Meeting but was postponed due to the COVID-19 pandemic. The Warrant Article has been refiled for 2021 Annual Town Meeting.

The Engineering Division and DPCD are proposing amendments to the Stormwater Mitigation Bylaw for a number of reasons, but first and foremost in order to maintain compliance with the Environmental Protection Agency's (EPA) new Municipal Separate Storm Sewer System (MS4) permit. The MS4 permit regulates nonpoint source pollution into local bodies of water, particularly through the regulation of stormwater management. The MS4 permit was updated in 2016 to include stricter regulations and became effective on July 1, 2018. The Engineering Division and DPCD are working together to develop policies, procedures, and schedules to meet the requirements of the MS4 permit. One such requirement of the MS4 permit is to update local bylaws and regulations that support better Town-wide stormwater management on public and private property, based on prescribed criteria established by the EPA with guidance from the Massachusetts Department of Environmental Protection (MassDEP).

The Engineering Division and DPCD has provided staff support for the background of this Warrant Article, including research into the requirements of the MS4 permit; research into other municipalities' stormwater bylaws and regulations; and facilitating discussion with the Inspectional Services Department (ISD), the DPW, the Arlington Redevelopment Board (ARB), and the Arlington Conservation Commission (ACC). The Engineering Division and DPCD are

also working with the Mystic River Watershed Association (MyRWA) and Horsley Witten, a stormwater technical consultant hired by MyRWA, to ensure that all proposed amendments comply with the MS4 permit. Finally, the Engineering Division worked with Weston & Sampson, another stormwater technical consultant, to review the update.

Additional consideration relative to this Warrant Article includes:

- **Compliance with the MS4 permit is critical.**
  Due to the stricter regulations of the MS4 permit, Arlington has been mandated to assess and amend its local stormwater bylaw, regulations, and policies to remain in compliance with the permit. Noncompliance could result in violation orders or decrees with associated fines.

- **The Town's current permitting processes can be improved and coordinated.**
  The Engineering Division currently administers a Stormwater Review Permit promulgated by the Stormwater Mitigation Bylaw. The proposed amendments would formalize the current stormwater permitting process, as well as better establish and integrate into Arlington's current permitting processes, especially those permits issued by ISD, the Zoning Board of Appeals, the ARB, and the ACC. Please see the enclosed "Other Permitting Jurisdictions Certification Form".

- **Arlington is a stormwater role model and wants to continue to be a stormwater role model for other communities.**
  In Fall 2018, Arlington was selected to be one of two municipalities to work with the EPA and MassDEP to enhance stormwater management through a community support collaborative. The goal of this collaborative was to work with the state and federal stormwater regulatory agencies to improve compliance with the recently updated MS4 permit and reduce the eutrophication and degradation of water quality in the Mystic River. Arlington has a great professional relationship with the EPA and MassDEP stormwater divisions and has been highlighted as a role model community. In Fall 2019, the Engineering Division was featured on an EPA webinar because of the professional relationship and stormwater insight shared with the EPA and MassDEP.

  In addition to being a role model for stormwater, Arlington is also a role model community for implementing green infrastructure interventions that support improved stormwater management. Between 2019 and 2020, Arlington was awarded over $300,000 by the Massachusetts Office of Coastal Zone Management (CZM) to install rain gardens and infiltration trenches in East Arlington. The CZM grants followed two other grants awarded to Arlington to improve stormwater management, an EPA 319 Nonpoint Source Pollution grant and a MassDEP Natural Resource Damages (NRD) grant. The 319 grant was used to construct two rain gardens, also located in East Arlington. The NRD grant was awarded to restore a derelict outfall along the Mystic River and replant the river habitat along river's bank.

- **An amended Stormwater Management bylaw supports Arlington's ongoing resilience efforts.**
  Arlington is actively engaged in efforts to improve climate change preparedness and resiliency by reducing known vulnerabilities. In 2018, Arlington was awarded funding to create a Municipal Vulnerability Preparedness (MVP) Plan which included a Community Resilience Building Workshop. This workshop enabled Arlington to better understand its greatest opportunities to improve resilience, including reducing flooding along Mill Brook and addressing heat hazards along Arlington's major corridors. After completion of the plan, Arlington was awarded an MVP Action grant to improve the flood storage capacity at Wellington Park.

  Arlington is not only invested in local resilience, but is also an active participant in strengthening regional resilience. Arlington is currently a member of three regional collaborative efforts established for the purpose of improving climate change and natural disaster resilience. These three collaborative efforts include the Metropolitan Area Planning Council Metropolitan Mayors Coalition Climate Preparedness Taskforce, MyRWA's Resilient Mystic Collaborative, and the Charles River Watershed Association's Climate Compact. All three of these collaborative efforts are opportunities for municipalities to share best resilience practices. These three collaborative efforts have prioritized stormwater management as a scalable and effective resilience building tactic because stormwater flooding has become a major vulnerability issue in urbanized areas.

ARTICLE 15

~~STORM WATER MITIGATION~~ STORMWATER MANAGEMENT

(ART. 10, ATM – 04/25/07)

Section 1. Purpose

The purpose of this bylaw is to protect, maintain, and enhance the public health, safety, environment, and general welfare by establishing minimum requirements and procedures to control the adverse effects of soil erosion and sedimentation, construction and post-development stormwater runoff, decreased groundwater recharge, climate change impacts, and nonpoint source pollution associated with new development, redevelopment, and other land alterations. Stormwater runoff can be a major cause of:

(1) Impairment of water quality and flow in lakes, ponds, streams, rivers, coastal waters, wetlands, groundwater, and drinking water supplies;

(2) Contamination of drinking water supplies;

(3) Contamination of downstream coastal areas;

(4) Alteration or destruction of aquatic and wildlife habitat;

(5) Overloading or clogging of municipal stormwater management systems; and

(6) Flooding.

The objectives of this bylaw are to:

(1) Protect wetland and water resources;

(2) Mitigate climate change impacts;

(2) Comply with state and federal statutes and regulations relating to stormwater discharges including total maximum daily load requirements;

(3) Prevent and reduce pollutants from entering Arlington's municipal separate storm sewer system (MS4);

(4) Prohibit illicit connections and unauthorized discharges to the MS4 and require their removal;

(5) Establish minimum construction and post construction stormwater management standards and design criteria for the regulation and control of stormwater runoff quantity and quality and the control of sedimentation and erosion on disturbed sites;

(6) Establish provisions for the long-term responsibility for, and maintenance of, structural stormwater control facilities and nonstructural stormwater best management practices to ensure that they continue to function as designed, and pose no threat to public safety; and

(7) Establish Arlington's legal authority to ensure compliance with the provisions of this bylaw through inspection, monitoring, and enforcement.

~~Section 1.~~ Section 2. Definitions

A. The following terms, when used whether or not capitalized in this Bylaw, shall have the meanings set forth below, unless the context otherwise requires. Additional definitions may be set forth in the Rules and Regulations promulgated by the Department of Public Works under Section 6.C of this bylaw.

"Building footprint" – The outline of the total area covered by a building's perimeter at the ground level.

"Development" – The modification of land to accommodate a new use or expansion of use, usually involving construction.

"Impervious surface" – A hard-surfaced, human-made area that does not readily absorb or retain water, preventing the infiltration of storm water runoff; including but not limited to building roofs, parking and driveway areas, sidewalks, paved recreation areas, structural additions, accessory structures, roads, pools, and play areas.

"Land Alteration" – Any activity that causes a change in the position or location of soil, sand, rock, gravel, or similar earth material; results in an increased amount of runoff or pollutants; measurably changes the ability of a ground surface to absorb waters; involves clearing and grading; or results in an alteration of drainage characteristics.

"Predevelopment" – The status of a property at the time prior to request for a permit for new construction or increase to the impervious surface area of a lot.

"Runoff" – Rainfall, snowmelt, or irrigation water flowing over the ground surface or directed through a pipe or culvert.

"Runoff Rate" – The speed and volume of stormwater which flows over the surface of the land.

"Stormwater" – ~~storm water, snow melt; the flow of water which results from precipitation and which occurs following rainfall or snowmelt~~ Runoff from precipitation or snow melt and surface water runoff and drainage.

Section 3. Authority

This Bylaw is adopted under authority granted by the Home Rule Amendment of the Massachusetts Constitution and the Home Rule statutes, and pursuant to the regulations of the federal Clean Water Act found at 40 CFR 122.34.

~~Section 2.~~ Section 4. Applicability

~~This bylaw is applicable to the following development or redevelopment:~~

~~A. All development of a previously undeveloped vacant lot, resulting in a structure where building footprint and other impervious surfaces exceeds 500 square feet;~~

~~B. Alteration of a developed property resulting in an increase to the impervious area of a lot by more than 350 square feet.~~

~~This bylaw shall not apply, however, to the paving of private ways that are owned in common with abutting lot owners, and that serve purposes similar to that of public ways, and that are not driveways entirely located on a single lot or on multiple lots under the same ownership.~~

This bylaw shall be applicable to all new development, development, redevelopment, or land alteration activities resulting in either an increase in impervious surface of 350 square feet or more, or land alteration of 1 acre or more, including such activities that may also require a permit issued by the Redevelopment Board, Conservation Commission, Zoning Board of Appeals, and/or the Inspectional Services Department. A development shall not be segmented or phased in a manner to avoid compliance with this bylaw. This bylaw shall also apply to land alterations or disturbances that are less than one acre but are part of a larger plan of development disturbing one acre or more.

Project Categories. The Permitting Authority may by regulation establish categories of projects ranging from "minor" to "major" based on project size, scope, nature, or location. Project Application requirements and submittals, fees, and criteria for permit issuance shall be scaled appropriately based on project category.

~~Section 3. Standard~~

~~No project subject to this bylaw may increase the surface water runoff rate relative to the predevelopment runoff rate.~~

~~Section 4.~~ Section 5. Procedure

~~A. Application: Prior to the issuance of a building permit for any activity subject to this bylaw, a grading and drainage plan shall be submitted to the Engineering Division, consistent with specifications to be developed by the Arlington Department of Public Works. A fee of $25.00 shall be assessed to cover the costs of review of the plan.~~

~~B. Review: The Engineering Division will review the application, and within 14 days approve, approve subject to conditions, or reject the plan.~~

~~C. Relief: The applicant may request relief when strict adherence to this bylaw can be shown to constitute significant hardship due to unique topographical aspects of the site or due to serious financial hardship. Relief may be granted by the Director of Public Works, after consultation with the Engineering Division which decision shall be made within 14 days after the request for same is made. Further relief from the decision of the Director of Public Works may be sought from the Zoning Board of Appeals, which will make a de novo determination after a hearing on the merits. The Zoning Board will convene such hearing within 21 days of a request for relief from the applicant and make a decision within 14 days of the hearing.~~

~~D. Prior to project completion, the Town Engineer or the Engineer's representative shall determine if there has been compliance with the storm water plan; if found to be not in compliance, the applicant will be notified of remaining work to be done; if found in compliance, a certificate of completion will be issued.~~

~~E. Any attempt to occupy the premises by the applicant or anyone else without compliance with the provisions of this bylaw shall be punishable by a fine of $200 each day of noncompliance to be considered a separate offense.~~

Permit procedures and requirements shall be defined in the Rules and Regulations promulgated pursuant to Section 6.C. of this bylaw.

~~Section 5.~~ Section 6. Administration

~~A. The Engineering Division, subject to approval by the Director of public Works and the Town Manager, shall establish administrative procedures for the review and approval of storm water management plans. Failure to promulgate rules and regulations will not have the effect of suspending or invalidating this bylaw.~~

~~B. The Engineering Division shall utilize the policy, criteria, and information, including specifications and standards, of the latest edition of the Massachusetts Department of Environmental Protection's revised Surface Water Discharge Permit Regulations at 314 CMR 3.06(11)(b)5 Storm Water Management Policy for execution of the provisions of this bylaw.~~

A. The Town Engineer or its Designee shall administer this bylaw.
B. The Engineering Division may designate additional authorized agents (Designees) of the Conservation Commission, Redevelopment Board, Zoning Board of Appeals, or Building Inspector to issue Stormwater Permits concurrent with other permitting processes for projects when the land alteration or change in impervious cover is wholly under their jurisdiction.
C. The Engineering Division, subject to approval by the Director of Public Works and the Town Manager, shall adopt, and may periodically amend, Stormwater Management Rules and Regulations including terms, conditions, definitions, enforcement, fees, delegation of authority, procedures and administration of this Bylaw. A public hearing must be held at least 2 weeks prior to the adoption or amendment of such Rules and Regulations, and a draft of the proposed Rules and Regulations must be made publicly available at least 2 weeks prior to the public hearing. Failure of the Engineering Division to issue such Rules and Regulations or legal declaration of their invalidity by a court, shall not act to suspend or invalidate the effect of this Bylaw.
D. Stormwater Management Standards. For execution of the provisions of this Bylaw, the Permitting Authority shall define stormwater management standards within the Rules and Regulations. These standards shall incorporate into the Rules and Regulations the minimum standards of the EPA National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4 Permit) and the specifications and standards of latest editions of the Massachusetts Stormwater Management Standards and Technical Handbooks, or approved local equivalents. The stormwater management standards may be updated

and expanded periodically, based on improvements in engineering, science, monitoring, and local maintenance experience.

E. The Department of Public Works or its Designee has the authority to resolve illicit connections by the means necessary. This authority may be set forth by this Bylaw and is stated in the Rules and Regulations as stated in the Rules and Regulations Relating to Use of Public and Private Sewers.

Section 7. Enforcement

The Engineering Division or its Designee shall enforce this Bylaw, Regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations.

A. Civil relief. If a person violates the provisions of this Bylaw, or any associated Regulations, permit, notice, or order issued thereunder, the Engineering Division or its Designee may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

B. Orders. If the Engineering Division or its Designee determines that a person's failure to follow the requirements of this Bylaw, any regulatory provision issued hereunder, or any authorization issued pursuant to this Bylaw or Regulations is creating an adverse impact to a water resource, then the Engineering Division or its Designee may issue a written order to the person to remediate the adverse impact, which may include requirements to:

(1) Cease and desist from land-disturbing activity until there is compliance with the Bylaw or provisions of an approved Stormwater Management Permit;

(2) Maintain, install, or perform additional erosion and sediment control measures;

(3) Perform monitoring, analyses, and reporting;

(4) Remediate erosion and sedimentation resulting directly or indirectly from land-disturbing activity;

(5) Comply with requirements in the Stormwater Management Permit for operation and maintenance of stormwater management systems;

(6) Remediate adverse impacts resulting directly or indirectly from malfunction of the stormwater management systems; and/or

(7) Eliminate discharges, directly or indirectly, into a watercourse or into the waters of the Commonwealth.

C. If the Engineering Division or its Designee determines that abatement or remediation of pollutants is required, the order shall set forth a deadline for completion of the abatement or remediation. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town may, at its option, undertake such work, and expenses thereof shall be charged to the violator or property owner. Within 30 days after completing all measures necessary to abate the violation or to perform remediation, the violator and the property owner will be notified of the costs incurred by the Town, including administrative costs. The violator or

property owner may file a written protest objecting to the amount or basis of costs with the Engineering Division or its Designee within 30 days of receipt of the notification of the costs incurred. If the amount due is not received by the expiration of the time in which to file a protest or within 30 days following a decision of the Engineering Division or its Designee affirming or reducing the costs, or from a final decision of a court of competent jurisdiction, the cost shall become a special assessment against the property owner of said costs. Interest shall begin to accrue on any unpaid costs at the statutory rate provided in G.L. c.59, § 57 after the 30th day at which the costs first become due.

Section 8. Fee Schedule

A. Permit fees are payable at the time of Application and are nonrefundable.

B. Permit fees shall be calculated by the Engineering Division and shall be approved by the Director of Public Works and Town Manager. Fees shall be outlined within the Rules and Regulations.

C. Town, County, State, and Federal projects are exempt from fees.

D. Consultant Fee. Upon receipt of a Stormwater Permit Application the Engineering Division is authorized to require an Applicant to pay a fee for the reasonable costs and expenses borne by the Engineering Division for specific expert engineering and other consultant services deemed necessary by the Engineering Division to come to a final decision on the Application. The fee is called the consultant fee. The consultant shall be chosen by, and report only to, the Engineering Division. The exercise of discretion by the Engineering Division in making its determination to require payment of a consultant fee shall be based upon its reasonable finding that additional information acquirable only through outside consultants would be necessary for the making of an objective decision. The Engineering Division shall return any unused portion of the consultant fee to the Applicant. Any Applicant aggrieved by the imposition of, or size of, the consultant fee, or any act related thereto, may appeal according to the provision of the Massachusetts General Laws.

Section 9. Severability

If any provision, paragraph, sentence, or clause of this bylaw shall be held invalid for any reason, all other provisions shall continue in full force and effect.

DRAFT
ARLINGTON STORMWATER MANAGEMENT RULES & REGULATIONS
Effective Date: xx/xx/xxx
Revised: N/A

SECTION 1: AUTHORITY

A. The Rules and Regulations contained herein are in effect in accordance with Article 15 of the Town of Arlington Stormwater Management Bylaw (hereinafter called Article 15).

B. Nothing in these Rules and Regulations is intended to replace or be in derogation of the requirements of the Town of Arlington Wetlands Protection Bylaw, the Town of Arlington Floodplain District Section 5.7 of the Zoning Bylaw, Arlington Inland Wetland District Section 5.8 of the Zoning Bylaw, or any other Bylaw adopted by the Town of Arlington or any Rules and Regulations adopted thereunder. Any project or activity subject to the provisions of the above-cited Bylaws or Rules and Regulations must comply with the specifications of each. In case of conflict, the more stringent provisions shall apply.

C. These Rules and Regulations may be periodically amended by the Engineering Division in accordance with the procedures outlined in Article 15.

D. The Engineering Division may make revisions to the fee schedule presented in Appendix B periodically upon the approval of the Director of Public Works and the Town Manager, and in accordance with Article 15.

E. Waivers. The Engineering Division may waive strict compliance with any of the requirements of Article 15 or the Rules and Regulations promulgated hereunder, if it finds that:

1. Application of some of the requirements is unnecessary or impracticable because of the size or character of the development project or because of the natural conditions at the site;

2. The project is consistent with the purposes and intent of Article 15, and;

3. The project provides substantially the same level of protection to the public health, safety, environment, and general welfare of the Town as required by Article 15.

Any Applicant for a waiver must submit a written request for such a waiver to the Engineering Division. Such a request shall be accompanied by an explanation or documentation supporting the waiver request. The Engineering Division shall provide a written response to any such waiver request within ten (10) business days of receipt of the request. Should the Engineering Division require additional time or information to review a waiver request, a notice shall be provided to the Applicant in writing informing them of the delay and additional information, if any, required. In the event the Applicant fails to provide requested information, the waiver request shall be denied. Applicants may appeal a rejected waiver to the Director of Public Works, who shall provide a written response to any such waiver request within ten (10) business days of receipt of the request. Approval of a waiver from the requirements of Article 15 by the Engineering Division or the Director of Public Works does not constitute a release of the Applicant's responsibility to adhere to the rules and regulations of other permitting authorities.

SECTION 2: PURPOSE

A. The purpose of these regulations is to protect, maintain and enhance the public health, safety, environment, and general welfare by establishing minimum requirements and procedures to control the adverse effects of soil erosion and sedimentation, construction and post-development stormwater runoff, decreased groundwater recharge, climate change impacts, and nonpoint

source pollution associated with new development, redevelopment and other land alterations, as more specifically addressed in Article 15.

SECTION 3: DEFINITIONS

A. All definitions are provided in Article 15 or Appendix A of the Town of Arlington Stormwater Management Rules and Regulations.

SECTION 4: APPLICABILITY

These Rules and Regulations apply to all projects or activities subject to the Applicability section of Article 15. Projects and/or activities subject to Article 15 must obtain a Stormwater Management Permit (SMP) from the Engineering Division or its Designee in accordance with the permit procedures and requirements defined in Sections 5 through 9 and Appendix B of these Rules and Regulations.

No work on a project meeting or exceeding threshold requirements under the jurisdiction of Article 15 may commence without written approval of the Engineering Division or its Designee confirming that the project or activity is in compliance with the Design Standards of these Regulations. If work commences without approval, enforcement action and/or fines may be pursued.

A. Exempt Projects - No Permit Required

Notwithstanding Section 4.B, no permit shall be required by the Engineering Division or its Designee for:

1. Normal maintenance and improvement of land in agricultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.04 and G.L.C. 40A, § 3.

2. Any work or projects for which all necessary approvals and permits, including building permits, have been issued before the effective date of these Rules and Regulations.

3. Projects creating less than 350 square feet of new impervious cover and disturbing less than one acre of land.

4. Repairing, repaving, or replacing an existing driveway or parking area. See Section 4.C.2. of this section for expansion regulations.

5. Repair or replacement of an existing roof.

6. Normal maintenance of existing lawn, landscaping, or garden areas.

7. Construction of any fence that will not alter existing terrain or drainage patterns.

8. Construction of utilities (gas, water, sanitary sewer, electric, telephone, cable television, etc.) other than drainage that will not permanently alter the site.

9. The maintenance or surfacing of any unpaved public or private way.

10. Such other projects as the Engineering Division or its Designee may find, at its discretion, to meet the standards for a waiver, provided that erosion control measures such as those listed in the most recent versions of the Massachusetts Stormwater Management Standards and Technical Handbooks and the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas are used appropriately and the project or activity will not result in

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an increased amount of stormwater runoff or pollutants flowing from a parcel of land and entering a traveled way or adjacent properties.

B. All projects or activities not falling under an exception listed in Section 4.A shall require a Stormwater Management Permit in accordance with Sections 4.C to 4.E. The installation of porous pavers shall not negate the need for a stormwater mitigation review

C. Projects or activities that require a Minor Stormwater Management Permit:

1. Any land alteration, disturbance, development, or redevelopment that results in an increase in impervious area of 350 square feet up to 1,000 square feet, except for work that requires a building permit (see Section 4.D. below).

2. The expansion of a driveway or parking area with a resultant increase in impervious area between 350 and 1,000 square feet.

D. Projects or activities that require a Major Stormwater Management Permit:

1. Any project or activity effectuating an alteration, disturbance, development, or redevelopment of land that increases impervious area and is ineligible for a Minor Stormwater Management Permit requires a Major Stormwater Management Permit.

2. Any land alteration, disturbance, development, or redevelopment that results in an increase in impervious area of 1,000 square feet or more and/or disturbs one acre of land or more.

3. Any alteration, disturbance, development, or redevelopment that results in an increase in impervious area of 350 square feet or greater and requires a building permit from Inspectional Services.

E. An Emergency Stormwater Permit (ESP) may be issued in cases where a delay or failure to perform work poses an imminent danger to public health or safety. The Engineering Division or their Designee may, at their sole discretion, issue an ESP. Any person to whom an ESP is issued shall submit the materials described in Sections 5 through 9 and Appendix B of these Rules and Regulations as soon as practical thereafter for review and ratification.

SECTION 5: DESIGN STANDARDS

A. Minor Stormwater Management Permits (mSMPs)

At a minimum all projects subject to a Minor Stormwater Management Permit shall be designed to the following standards:

1. Stormwater management systems requiring minor stormwater permits shall be designed to meet the minimum storage requirements presented in the following table.

Increase in Impervious Area (s.f.)	Minimum Storage Required (gal.)
350 to 450	440
451 to 550	540
551 to 650	640

Increase in Impervious Area (s.f.)	Minimum Storage Required (gal.)
651 to 750	730
751 to 850	830
851 to 950	930
950 to 999	980

2. All projects must consider and, unless infeasible, propose and implement Low Impact Development (LID) BMPs listed in the Massachusetts Stormwater Handbook. Applicants shall demonstrate compliance with design standards for LID BMPs through generally accepted methods. LID BMPs should be considered for their impact on overall site climate change resilience, improvements to water quality, and ability to handle water quantity.

3. All projects must include sufficient sediment and erosion controls throughout the duration of the project. Sediment and erosion controls shall meet the requirements of the most recent versions of the Massachusetts Stormwater Management Standards and Technical Handbooks and the Massachusetts Runoff, Erosion and Sediment Control Field Guide.

B. Major Stormwater Management Permits (MSMPs)

At a minimum all projects subject to a Major Stormwater Management Permit shall comply with the performance standards of the most recent version of the Massachusetts Stormwater Management Standards and Technical Handbooks, and these Rules and Regulations, with the following differences from the Handbook noted:

1. Stormwater management systems requiring major stormwater permits shall be designed to:

   a) Retain the volume of runoff equivalent to, or greater than, 1.0 inch multiplied by the total post-construction impervious surface area on the redeveloped site, including any directly connected impervious area draining onto the redeveloped site; and

   b) Remove 90% of the average annual load of Total Suspended Solids generated from the impervious area on the site; and

   c) Remove 60% of the average annual load of Total Phosphorus (TP) generated from the total area on the site;[1] and

   d) Maintain or reduce peak flows from the project area for the 2-, 10-, 25-, and 100-year, 24-hour frequency events.

2. Stormwater management systems designed on commercial and industrial land use area draining to Alewife Brook or the Charles River shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill.

3. Redevelopment activities that are exclusively limited to maintenance and improvement of existing roadways shall improve existing conditions unless infeasible and are exempt from Section 5.B.2. Such activities include the following:

a. Roadway widening by less than a single lane width;

b. Adding shoulders to roadways;

c. Correcting substandard intersections;

d. Improving existing intersections; and

e. Repaving projects.

f. Roadway widening or improvements that increase the amount of impervious area by greater than or equal to a single lane width shall meet the requirements of Section 5.B.2.

4. The rainfall amounts used for design and analysis shall be based on the NOAA Atlas 14+ Volume 10 Point Precipitation Frequency Estimates for Arlington.

5. All projects must consider and, unless infeasible, propose and implement Low Impact Development (LID) Best Management Practices listed in the Massachusetts Stormwater Handbook. Applicants shall demonstrate compliance with design standards for LID BMPs through generally accepted methods. LID BMPs should be considered for their impact on overall site climate change resilience, improvements to water quality, and ability to handle water quantity.

6. All projects must include sufficient sediment and erosion controls throughout the duration of the project.

SECTION 6: ADMINISTRATION

A. Administration of Rules and Regulations

The Engineering Division shall administer, implement, and enforce these Rules and Regulations, except as otherwise noted. The Engineering Division may designate in writing any authorized Town employee, board, or agent for the purposes of reviewing stormwater submittals and issuing stormwater management permits.

The Applicant shall submit all Stormwater Management Permit Application submittals in compliance with these Rules and Regulations to the Engineering Division.

The Engineering Division will review the submittal for administrative completeness and compliance with the requirements and standards of these Rules and Regulations. If the proposed project is administratively complete and complies with these Rules and Regulations, the Engineering Division may grant a Stormwater Management Permit, in addition to any other approval or permit for which they are authorized. The Engineering Division or its Designee shall have authority to enforce Article 15 and these Rules and Regulations. The Engineering Division or its designee may reject an Application if it is not administratively complete.

B. Right of Entry

Filing an Application for a permit grants the Engineering Division or its Designee permission to enter a project site from the time of Application until a Stormwater Certificate of Compliance is issued as necessary to verify the information in the Application and to inspect the site for compliance with the resulting permit.

C. Minor Stormwater Management Permit Approval Process

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1. The Engineering Division or its Designee shall review the permit Application within ten (10) business days of receipt.

2. The Engineering Division or its Designee shall provide a written response to the Applicant within the review period indicating one of the following:

    (1) Disapprove the Application for being incomplete and require the submission of additional information and/or deny the Permit;

    (2) Approve the Permit Application;

    (3) Approve the Permit Application with conditions, modifications, and/or restrictions that are required to ensure that the project will protect water resources and meet the objectives and requirements of Article 15;

    (4) Deny the Permit Application due to non-compliance with Design Standards or insufficient information to make a determination;

    (5) Determine that a Minor Stormwater Management Permit is inappropriate and require the submission of a Major Stormwater Management Permit.

3. If a Minor Stormwater Management Permit Application is denied, the Applicant may choose to take one of the following actions:

    (1) Make required changes to the Application and resubmit to the Engineering Division. The Application shall be treated as a new submittal upon receipt, and the Engineering Division shall complete the review in accordance with the requirements of Section 6.C.

    (2) Appeal the determination to the Director of Public Works.

    (3) Request a waiver from the Engineering Division as detailed in Section 1, provided the Design Standards cannot be met due to site conditions or the Applicant wishes to propose an alternative design not consistent with the Design Standards.

D. Major Stormwater Management Permit Approval Process

1. The Engineering Division or its Designee shall review the permit Application within fifteen (15) business days of receipt.

2. The Engineering Division or its Designee shall provide a written response to the Applicant within the review period indicating one of the following:

    (1) Disapprove the Application for being incomplete and require the submission of additional information and/or deny the Permit.

    (2) Approve the Permit Application;

    (3) Approve the Permit Application with conditions (see Standard Conditions, Appendix C), modifications, and/or restrictions that are required to ensure that the project will protect water resources and meets the objectives and requirements of Article 15;

    (4) Deny the Permit Application due to non-compliance with Design Standards or insufficient information to make a determination.

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3. If a Major Stormwater Management Permit Application is denied, the Applicant may choose to take one of the following actions:

    (1) Make required changes to the Application and resubmit to the Engineering Division. The Application shall be treated as a new submittal upon receipt, and the Engineering Division shall complete the review in accordance with the requirements of Section 6.D.

    (2) Appeal the determination to the Director of Public Works.

    (3) Request a waiver from the Engineering Division as detailed in Section 1, provided the Design Standards cannot be met due to site conditions or the Applicant wishes to propose an alternative design not consistent with the Design Standards.

E. Coordinating with Other Permitting Authorities, Jurisdictions, and Regulations

Should a project require a Minor or Major Stormwater Management Permit and also be located within the jurisdiction of another permitting authority such as the Conservation Commission, the Redevelopment Board, the Inspectional Services Department, the Zoning Board of Appeals, or another authority, the Applicant shall obtain approval of the Minor or Major Stormwater Management Permit in addition to the issuance of a permit from the other required permitting authority. Should changes be required to stormwater management per the permit conditions issued by another permitting authority, the Engineering Division will not require additional Stormwater Management Permit review and approval, provided the changes to the design and conditions are at least as stringent, if not more so, than those contained in the original Stormwater Management Permit, unless so requested by the other permitting authority. Any such changes shall be reflected in an As-Built Plan to be provided to both the Engineering Division and the other permitting authority at the completion of the project.

F. Deadline for Action

Failure of the Engineering Division or its designee to take final action upon a Stormwater Management Permit within ten (10) business days of the receipt of a Minor Stormwater Management Application and within fifteen (15) business days of the determination of receipt of a Major Stormwater Management Application shall be deemed to be approval of said Application, unless extension of the deadline date is requested in writing by the Engineering Division prior to the applicable deadline date.

If desired, Applicants shall submit a written Appeal for a Stormwater Management Permit Application that has been denied to the Director of Public Works within thirty (30) business days of the original date of submission of the Stormwater Management Permit Application. The Director of Public Works shall issue a decision within fifteen (15) business days of receipt of the Appeal, unless an extension has been mutually agreed upon in writing by the Applicant and the Director of Public Works.

G. Plan Changes

The Applicant or their legal designee must notify the Engineering Division or its Designee, in writing, of any drainage change or alteration in the system authorized in a Stormwater Management Permit before any change or alteration is made. If the Engineering Division or its Designee determines that the change or alteration is significant, based on the Design Standards in Section 5 and accepted construction practices, the Engineering Division or its designee may require that an amended Application be filed.

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H. Appeals of Actions of the Engineering Division

A final decision by the Engineering Division made under these Rules and Regulations shall be reviewable in a court of competent jurisdiction by an action filed within sixty (60) days thereof, in accordance with M.G.L. Ch. 249. § 4. An appeal of an action by a board, commission, or department that has concurrent regulatory authority for a project and/or activity shall be conducted under the applicable appeal provisions of said board, commission, and/or department of the Town of Arlington. An appeal shall result in suspension of any Permit so appealed as described in these Regulations, until such time as the appeal process of the applicable board, commission, and/or department has been resolved.

I. Project Delay

If the project associated with an approved Stormwater Management Permit granted under Article 15 has not been completed within three (3) years of permit issuance, the Permit shall expire. At the request of the Applicant, the Engineering Division may extend the Permit or require the Applicant to apply for a new permit. Any request for extension shall by submitted to the Engineering Division in writing no later than 30 days prior to the expiration of the Stormwater Management Permit. The Engineering Division may require updates to the project to comply with current regulations and standards as a condition of the permit extension.

J. Project Completion

A Stormwater Management Certificate of Completion (SMCC) is required for completion of Stormwater Management Permits as further detailed in Section 9. The Engineering Division will issue a SMCC upon review and approval of the required documents and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with Article 15.

SECTION 7: SITE MEETINGS

A. Construction Commencement

1. Pre-Construction Meeting: The Engineering Division or its Designee may require a pre-construction meeting prior to starting clearing, excavation, construction, or land-disturbing activity by the Applicant. The Applicant's technical representative, the general contractor, or any other person with authority to make changes to the project shall meet with the Engineering Division or its representative to review construction sequencing and the permitted plans and their implementation.

2. Notice of Construction Commencement: The Applicant must notify the Engineering Division two (2) days prior to the commencement of construction. In addition, the Applicant must notify the Engineering Division two (2) days prior to construction of critical components of any stormwater management structural Best Management Practices (BMPs).

3. The Engineering Division may require the submission of periodic inspections and reporting by the Applicant as dictated by site conditions.

4. A copy of the approved and signed plans and permits for a SMP shall be kept on the construction site at all times.

B. Construction Observations

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1. Upon issuance of any Stormwater Management Permit, and until issuance of a SMCC, the Engineering Division shall be granted the right to enter the property per Section 6.B. at reasonable times and in a reasonable manner for the purpose of observation.

2. The Engineering Division shall require the Applicant or its Designee to schedule the following observations by the Engineering Division and its Designee, at a minimum:

    a) Stormwater Management System Bottom Excavation Observation: An observation may be made of the bottom of excavation for the stormwater management system to ensure adequate separation of the stormwater system from groundwater and to confirm the presence of approved soil type.

    b) Stormwater Management System Installation Observation: An observation may be made of the completed stormwater management system, prior to backfilling of any underground drainage or stormwater conveyance structures.

C. The Engineering Division shall be provided with a minimum of 24-hours notice prior to the desired observation time. The Engineering Division shall not be responsible for any project delays related to the Applicant's failure to provide the Engineering Division with appropriate notice.

D. Should the Applicant neglect to schedule the required observations, the Engineering Division may find the Applicant in violation of the Permit Conditions and require any work completed while in violation to be removed so that the appropriate observations can be completed.

E. The Engineering Division may waive in-person construction observations in favor of the Applicant providing construction photos adequately showing the conditions that would be witnessed during an observation. The decision to waive an observation is at the sole discretion of the Engineering Division and such decision shall be requested by the Applicant prior to the start of excavation.

F. Notes indicating the required observations are to be added to the Site Plan(s).

SECTION 8: RECORDKEEPING AND REPORTING REQUIREMENTS

A. Annual inspection and maintenance reports shall be submitted to the Engineering Division by June 1st annually. Inspection reports for stormwater management systems shall include:

1. The date of inspection.

2. Name of inspector.

3. The condition of each BMP, including components such as:

    a) Pretreatment practices or devices.

    b) Vegetation or filter media.

    c) Spillways, valves, or other control structures.

    d) Embankments and slopes.

    e) Inlet and outlet channels and structures.

    f) Underground drainage structures.

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g) Sediment and debris accumulation in storage and forebay areas (including catch basins).

h) Any nonstructural practices.

i) Any other item that could affect the proper function of the stormwater management system.

4. Description of the need for maintenance.

5. Observations of any physical changes to system in comparison with the approved as-built plan.

B. The owner(s) of the stormwater management systems shall notify the subsequent owner(s) of the system(s) location, maintenance requirements, and reporting requirements.

SECTION 9: STORMWATER MANAGEMENT CERTIFICATE OF COMPLETION (SMCC)

A. Stormwater Management Certificate of Completion for Minor Stormwater Management Permit

1. The Applicant or their designee shall submit the following in order to obtain a SMCC for a Minor Stormwater Management Permit:

a. As-Built Site Plan/Sketch, signed and dated by the Applicant, Contractor, or other Designee, showing at a minimum the location of, dimensions of, and swing-ties to the installed stormwater management system and associated observation ports, as well as all newly installed impervious areas and the corresponding as-built increase in impervious area;

b. Statement of Compliance, signed and dated by the Applicant, Contractor, or other Designee, stating that the stormwater management system and impervious areas were constructed in accordance with the approved design package and meet the requirements set forth in Article 15.

c. Written Request for a SMCC.

2. After receipt of the Request for a SMCC and prior to the issuance of a SMCC, the Engineering Division may inspect the stormwater management system to confirm its features. If the installed conditions are found to differ from the approved Minor Stormwater Management Permit and/or the As-Built Plan/Sketch, the Engineering Division shall have the right to require corrections or improvements to the as-built system before issuing a SMCC.

3. It is the responsibility of the Applicant to request, in writing, the issuance of a SMCC from the Engineering Division upon completion of the work approved under a Stormwater Management Permit. An Applicant who fails to request a SMCC prior to the expiration of the SMP may be found in noncompliance with Article 15, and face applicable fines for each day of noncompliance.

B. Stormwater Management Certificate of Completion for Major Stormwater Management Permit

1. The Applicant or their designee shall submit the following in order to obtain a SMCC for a Major Stormwater Management Permit:

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a. As-Built Site Plan, stamped, signed and dated by a Professional Engineer or Land Surveyor licensed in Massachusetts, produced to scale, showing at a minimum the location of, dimensions of, and swing-ties to the installed stormwater management system and associated observation ports, as well as all impervious areas (buildings, patios, walks, driveways, sheds, etc.) present on the site and the corresponding increase in impervious area;

b. Statement of Compliance, stamped, signed and dated by the Design Engineer, stating that the stormwater management system and impervious areas were constructed in accordance with the approved design package and meet the requirements set forth in Article 15.

c. Written request for a SMCC.

2. After receipt of the Request for a SMCC and prior to the issuance of a SMCC, the Engineering Division may inspect the stormwater management system to confirm its features. If the installed conditions are found to differ from the approved Major Stormwater Management Permit and/or the As-Built Plan, the Engineering Division shall have the right to require corrections or improvements to the as-built system before issuing a SMCC. Further, a system will be deemed inadequate if issues including, but not limited to, errors in the infiltrative capability, the maximum groundwater elevation, failure to properly define or construct flow paths, or erosive discharges are found. If the system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the Stormwater Management Permit, the Engineering Division shall also have the right to require corrections or improvements to the as-built system before issuing a SMCC.

3. It is the responsibility of the Applicant to request, in writing, the issuance of a SMCC from the Engineering Division upon completion of the work approved under a Stormwater Management Permit. An Applicant who fails to request a SMCC prior to the expiration of the SMP may be found in noncompliance with Article 15, and face applicable fines for everyday of noncompliance.

SECTION 10: ENFORCEMENT

The Engineering Division or its Designee may enforce Article 15, Rules and Regulations, orders, permits, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations.

A. Civil relief: If a person violates the provisions of Article 15, these Rules and Regulations or any associated rules and regulations, permit, notice, or order issued there under, the Engineering Division or its Designee may seek injunctive relief in a court of competent jurisdiction restraining the person.

B. Orders: If the Engineering Division or its Designee determines that a person has failed to follow the requirements of Article 15, these Rules or Regulations or any other regulatory provision issued hereunder, or any authorization issued pursuant to Article 15 or these Rules and Regulations then the Engineering Division may issue a written order to the person to remediate the adverse impact, which may include requirements to:

1. Cease and desist from land-disturbing activity until there is compliance with the Article 15 or these Rules and Regulations or provisions of an approved Stormwater Management Permit;

2. Maintain, install or perform additional erosion and sedimentation control measures;

3. Perform monitoring, analyses, and reporting;

4. Remediate erosion and sedimentation resulting directly or indirectly from land-disturbing activity;

5. Comply with requirements of the Stormwater Management Permit for operation and maintenance of stormwater management systems;

6. Remediate adverse impacts resulting directly or indirectly from malfunction of the stormwater management systems; and/or

7. Eliminate discharges, directly or indirectly, into a watercourse or into the waters of the Commonwealth.

C. If the Engineering Division or its Designee determines that abatement or remediation of pollutants is required, it may issue an order setting forth a deadline for completion of the abatement or remediation. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town may, at its option, undertake such work, and expenses thereof shall be charged to the violator or property owner. Within thirty (30) days after completing all measures necessary to abate the violation or to perform remediation, the violator and the property owner will be notified of the costs incurred by the Town, including administrative costs. The violator or property owner may file a written protest objecting to the amount or basis of costs with the Engineering Division within thirty (30) days of receipt of the notification of the costs incurred. If the amount due is not received by the expiration of the time in which to file a protest or within thirty (30) days following a decision of the Engineering Division affirming or reducing the costs, or from a final decision of a court of competent jurisdiction, the cost shall become a special assessment against the property owner of said costs. Interest shall begin to accrue on any unpaid costs at the statutory rate provided in G.L. c.59, § 57 after the 30th day on which the costs first become due.

D. Criminal and Civil Penalties: Any person who violates any provision of the Stormwater Management Bylaw, these Rules and Regulations, or the terms or conditions in any permit or order prescribed or issued there under, may be subject to a fine not to exceed $200 for each day such violation occurs or continues or subject to a civil penalty, which may be assessed in an action brought on behalf of the Town in any court of competent jurisdiction.

E. Noncriminal Disposition: As an alternative to criminal prosecution or civil action, the Town may elect to utilize the noncriminal disposition procedure set forth in M.G.L. c.40, § 21D and § 1-6B of the Town of Arlington General Bylaws, in which case any police officer of the Town of Arlington, the Town Engineer, and such other persons as are authorized by the Engineering Division shall be the enforcing person. The penalty for the first violation shall be a warning. The penalty for the second violation shall be $100. The penalty for the third and subsequent violations shall be $200. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

F. Entry To Perform Duties Under This Bylaw: To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Engineering Division, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under Article 15 and these Rules and Regulations and may make or cause to be made such examinations, surveys, or sampling as the Engineering Division deems reasonably necessary.

G. Appeals: The decisions or orders of the Engineering Division or its Designee shall be final unless appealed to the Director of Public Works successfully. Further relief shall be available only in a court of competent jurisdiction.

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H. Remedies Not Exclusive: The remedies listed in Article 15 and these Rules and Regulations are not exclusive of any other remedies available under any applicable federal, state, or local law.

SECTION 13: SEVERABILITY

The invalidity of any section, provision, paragraph, sentence, or clause of these Rules and Regulations shall not invalidate any other section, provision, paragraph, sentence, or clause thereof, nor shall it invalidate any permit or determination that previously has been issued.

END OF ARLINGTON STORMWATER MANAGEMENT BYLAW RULES AND REGULATIONS

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APPENDIX A: DEFINITIONS

The following definitions supplement those included in the Town of Arlington Stormwater Management Bylaw (Article 15)

1. ABUTTER

   For the purpose of Arlington Article 15 and these Rules and Regulations, an abutter is any property owner whose property physically abuts the property upon which work is being proposed.

2. ALTER

   To change the conditions of any area subject to protection by this Bylaw, and shall include but not be limited to one or more of the following actions:

   A. Fill, removal or excavation of soil, sand, gravel or aggregate of any kind;

   B. Changing of pre-existing drainage characteristics, sedimentation patterns, flow patterns, and flood storage retention areas;

   C. The dumping, discharging, or filling with any material which could degrade water quality;

   D. Driving of pilings, erection of buildings or structures of any kind;

   E. Removal, addition, or relocation of an impervious surface of any kind;

   F. Placing of any object or obstruction, whether or not it interferes with the flow of water;

   G. Destruction, extensive trimming, or removal of natural or planted plant life, vegetation, or trees.

3. APPLICANT

   A property owner or agent of a property owner who has filed an Application for a Stormwater Management Permit.

4. BEST MANAGEMENT PRACTICE (BMP)

   Schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plan site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

5. BUIDLING FOOTPRINT

   The outline of the total area covered by a building's perimeter at the ground level.

6. CLIMATE CHANGE

   Change in the state of the earth's climate that can be identified by statistical changes of its properties that persist for an extended period, typically decades or longer, whether due to natural variability or as a result of human activity. Climate change impacts can adversely impact stormwater runoff and stormwater management.

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7. CONSTRUCTION WASTE

   Waste that may come into contact with stormwater on construction sites, including but not limited to discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes.

8. CONVEYANCE

   A. Any structure or device, including pipes, drains, culverts, curb breaks, paved swales or man-made swales of all types designed or utilized to move or direct stormwater runoff or existing water flow.

   B. Any impervious surface, including pavement, where surface/sheet flow is utilized to convey rainfall.

9. DEVELOPMENT

   The modification of land to accommodate a new use or expansion of use, usually involving construction.

10. ARLINGTON DRAINAGE AND STORMWATER DESIGN STANDARDS

    The Drainage and Stormwater Design Standards promulgated by the Department of Public Works of the Town of Arlington.

11. DISTURBANCE

    See “ALTER”.

12. EMERGENCY STORMWATER PERMIT (ESP)

    An Emergency Stormwater Permit may be issued in cases where a delay or failure to perform work poses an imminent danger to public health or safety.

13. EROSION CONTROL

    The prevention or reduction of the movement of soil particles or rock fragments.

14. EROSION CONTROL PLAN

    A plan that shows the location and construction detail(s) of the erosion and sediment reduction controls to be utilized for a construction site.

15. EXISTING LAWN

    Grass area which has been maintained and mowed in the previous two years.

16. FILL

    The placement or deposit of any material that raises, either temporarily or permanently, the elevation of any area subject to Article 15.

17. FLOODING

    A local and temporary inundation or a rise in the surface of a body of water, such that it covers land not usually under water.

18. GRADING

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Changing the level or shape of the ground surface.

19. GROUNDWATER

All water beneath any land surface including water in the soil and bedrock beneath water bodies.

20. HOODED CATCH BASIN

A catch basin that is fitted with an inverted elbow over its outlet pipe or similar structure that is designed to retain oils and other floatables within the catch basin sump and prevent them from flowing into the drainage system.

21. INFEASIBLE

Not technologically possible, or not economically practicable and achievable in light of best industry practices.

22. IMPERVIOUS SURFACE

A hard-surfaced, human-made area that does not readily absorb or retain water, preventing the infiltration of storm water runoff; including but not limited to building roofs, parking and driveway areas, sidewalks, paved recreation areas, structural additions, accessory structures, roads, pools, and play areas.

23. LAND ALTERATION

Any activity that causes a change in the position or location of soil, sand, rock, gravel, or similar earth material; results in an increased amount of runoff or pollutants; measurably changes the ability of a ground surface to absorb waters; involves clearing and grading; or results in an alteration of drainage characteristics.

24. LOW-IMPACT DEVELOPMENT (LID)

Systems or practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater in order to protect water quality and the associated aquatic habitat.

25. NEW DEVELOPMENT

Any construction or land disturbance of a parcel of land that is currently in a natural vegetated state and does not contain alteration by activities.

26. NORMAL MAINTENANCE OF LAWN/YARD

Maintenance of existing developed or landscaped yards or structures that do not result in any net loss of native vegetation or permanently alter the soil surface other than for planting of vegetation. Examples include but are not limited to: trimming of branches and shrubs, pruning (but not removing) trees (can prune up to 20% of canopy), and removal of invasive species.

27. OWNER

A person with a legal or equitable interest in a property.

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28. PERSON

Any individual, group of individuals, association, partnership, corporation, company, business organization, trust, estate, the Commonwealth or political subdivision thereof to the extent subject to Town Bylaws, administrative agency, public or quasi-public corporation or body, the Town of Arlington, and any other legal entity, its legal representatives, agents, or assigns.

29. PERVIOUS MATERIAL

Soil Types that are listed as Class I, II and III soils as defined in 310 CMR 15.243 and 15.244 based upon the general soil classification used by the U.S. Department of Agriculture and depicted in the Soil Textural Triangle. Decking shall also be considered a pervious material provided one of the aforementioned soil types is located below the decking. "Pervious pavers", "pervious asphalt", and other similar materials will only be considered pervious if a suitable design for the system as a whole is submitted to and approved by the Engineering Division. Otherwise these materials will be considered impervious.

30. POINT SOURCE

Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

31. PREDEVELOPMENT

The status of a property at the time prior to request for a permit for new construction or increase to the impervious surface area of a lot.

32. REDEVELOPMENT

Any construction or land disturbance of a parcel of land that does not meet the definition of new development above.

33. RESOURCE AREA

Any area protected under including without limitation: the Massachusetts Wetlands Protection Act, Massachusetts Rivers Act, or Town of Arlington Wetlands Protection Bylaw.

34. RUNOFF

Rainfall, snowmelt, or irrigation water flowing over the ground surface or directed through a pipe or culvert.

35. RUNOFF RATE

The speed and volume of stormwater which flows over the surface of the land.

36. SEDIMENTATION

A process of depositing material that has been suspended and transported in water.

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37. SLOPE

The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance (*e.g.* a 4:1 slope). It can also be expressed as a percentage of the vertical rise divided by the horizontal distance (*e.g.* a twenty-five (25) percent slope).

38. STORMWATER

Runoff from precipitation or snow melt and surface water runoff and drainage.

39. STORMWATER MANAGEMENT CERTIFICATE OF COMPLETION (SMCC)

A document issued by the Engineering Division after all construction activities have been completed which states that all conditions of an issued Stormwater Management Permit (SMP) have been met and that a project has been completed in compliance with the conditions set forth in a SMP.

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APPENDIX B: APPLICATION PROCEDURES FOR STORMWATER MANAGEMENT PERMITS

Applications for a Stormwater Management Permit (SMP) shall include the materials as specified in this section.

A. Fees: The Engineering Division or its designee shall obtain with each submission an Application fee to be collected at the time of Application according to the Fee Schedule. After-the-fact Applications shall submit fees at triple the rate set in the Fee Schedule.

PERMIT TYPE	FEE
Minor Stormwater Management Permit	$100
Major Stormwater Management Permit	$200

B. Signature: The Applicant must sign the Application.

C. Minor Permit Submission Requirements

One (1) hard copy of the original Minor Stormwater Management Permit Application, including all applicable submittal items, shall be submitted to the Engineering Division. An electronic copy (pdf) of all Minor Stormwater Management Permits and applicable submittal items shall also be submitted to the Engineering Division by email to engineering@town.arlington.ma.us. The submitted applications shall adhere to the following requirements:

1. One (1) completed Minor Stormwater Management Permit Application Form with the following:
    a) Name, contact information, and original signatures of owner(s), Applicant(s), and, if applicable, representative.
    b) Address of property as well as assessor map and parcel ID.
    c) Project description.
    d) Site plan reference(s).
    e) Operation and Maintenance (O&M) Plan.
2. Payment of the Application and review fees.
3. A Stormwater Management Site Plan that may be prepared by drafting or hand sketching. Required elements, depending on site-specific conditions, might at the discretion of the Engineering Division, include:
    a) General Information
        (1) Title.
        (2) Date.
        (3) Name and address of record owner and if applicable the name, address, and telephone number of the engineer or surveyor.

(4) When prepared by a professional, plans shall be stamped by a Registered Professional Engineer, Professional Land Surveyor, or other recognized professional acceptable to the Engineering Division.

(b) Existing Conditions

(1) The site's existing topography with approximate contours at 2 foot intervals for the work area.

(2) Locations of existing buildings, driveways, walls, etc.

(3) Locations of soil tests including test pits, borings, groundwater determinations, and percolation tests with the soil logs and percolation testing results, and/or other soil testing procedures, when available

(c) Proposed Conditions

(1) Proposed grading plan for work area.

(2) Proposed improvements including location of structures, impervious surfaces, utilities, and easements, if applicable.

(3) Locations of all erosion and sedimentation control measures and BMPs.

(4) Construction details for all erosion and sedimentation controls proposed to be utilized.

(5) For engineered systems designed to provide drainage or stormwater management including, but not limited to, culverts, drainage outfalls, catch basins and pervious pavement provide an appropriate plan detail, along with an Operation and Maintenance plan required to maintain the design element.

4. Any other information requested by the Engineering Division.

D. Major Permit Submission Requirements

One (1) hard copy of the original Major Stormwater Management Permit Application, including all applicable submittal items, shall be submitted to the Engineering Division. An electronic copy (pdf) of all Major Stormwater Management Permits and applicable submittal items shall also be submitted to the Engineering Division by email to engineering@town.arlington.ma.us. The submitted applications shall adhere to the following requirements.

1. One (1) completed Major Stormwater Management Permit Application Form with the following:

a) Name and contact information, of owner(s), Applicant(s), and, if applicable, representative.

b) Address of property as well as assessor map and parcel ID.

c) A brief project description.

d) Site plan reference(s).

e) Operation and Maintenance (O&M) Plan.

2. Payment of the Application and review fees.

3. A Project Narrative that includes a description of the proposed project and a description of how and where stormwater will be controlled and erosion and sedimentation controls implemented, and an explanation of why the Applicant believes the plans:

   a) Meet the Design Standards enumerated in Section 5;

   b) Employ, to the maximum extent practicable, environmentally sensitive site design as outlined in the most recent edition of the Massachusetts Stormwater Handbook;

   c) Attempt to reproduce natural hydrologic conditions with respect to groundwater and surface water[2];

   d) Include square footage summaries indicating square footage of limit of work as well as existing, proposed and net changes in impervious surface areas.

4. A Stormwater Management Site Plan prepared as follows:

   a) General Information:

      (1) Sheet size: Sheets shall have a maximum dimension of 24" x 36" and a minimum dimension of 11" x 17".

      (2) Scale: Not more than 1" = 50'. If project sites are large, an overall site plan at 1" = 100' is acceptable, but detailed plans must be at or less than 1" = 50'. Include graphical scales on all plans. Coordinate system shall be 1983 North American Datum, Massachusetts State Plane, feet, and North American Vertical Datum (NAVD) of 1988.

      (3) Title Block: A title block shall be included on all plans, located at the lower right hand corner, oriented to be read from the bottom when bound at the left margin. Include:

         (a) Plan title.
         (b) Original date plus additional space to reference the title and dates of all plan revisions.
         (c) Name and address of record owner and engineer and/or surveyor.
         (d) Address of property, Assessor Map and Parcel ID.

      (4) Legend: Include legend identifying line types and symbols used in plan set

      (5) Locus Map.

   b) An Existing Conditions Plan containing the following:

      1) Property lines.

      2) The existing zoning, and land use at the site and abutting properties.

      3) The location(s) of existing easements.

      4) The location of existing utilities (water, sewer, natural gas, etc.).

[2] Guidance on these practices is provided in Appendix C of these Regulations and the MA Stormwater Management Handbook.

5) Existing contours at 2-foot minimum vertical increments. Spot grades for proposed conditions are required when 2-foot contour intervals do not provide sufficient detail to show stormwater flow path and /or more specific detail is needed to demonstrate stormwater flow path.

6) Existing landscaping and vegetation including all existing trees within 25 feet of the work area that are over 6 inches in diameter breast height (dbh) and major vegetative cover types, including wooded areas defined by tree line drip line, shrub communities, limits of lawn, and edge of tree canopy.

7) Locations of existing structures, pipes, swales and detention ponds.

8) Locations of bodies of water, including wetlands.

9) A delineation of FEMA Special Flood Hazard areas and calculation of FEMA flood elevation, if applicable. Floodplain elevation data shall be based on 1988 NAVD (North American Vertical Datum) and reference the appropriate National Flood Insurance Rate Map and/or Flood Study.

10) Delineation of other relevant areas of concern, including but not limited to wetlands, Wetlands Buffers, Riverfront Areas, Endangered Species Habitat, and Natural Heritage and Endangered Species Program (NHESP) Vernal Pools.

11) Location of existing septic systems and private wells, if present.

12) The location(s) of soil tests and description of soil from test pits performed at the location of proposed stormwater management facilities, including but not limited to soil description, depth to seasonal high groundwater, depth to bedrock, and percolation rates. Soils information shall be based on site test pits logged by a Massachusetts Title 5 Soil Evaluator.

13) The existing vegetation and ground surfaces with runoff coefficients for each.

14) Stamp and signature of a Professional Engineer (PE) licensed in the Commonwealth of Massachusetts or Professional Land Surveyor (PLS).

4. A Proposed Conditions Plan containing the following:

a) Property lines, building envelope restrictions and/or easement areas, including areas affected by conservation restrictions, if applicable.

b) Proposed improvements including location of buildings or other structures, utilities, easements, etc., if applicable, and impervious surfaces. For single family homes plans shall show, at a minimum, house footprint, decks, garages, sheds, sewage disposal systems, roof drainage and stormwater drainage structures, as applicable, and all areas of existing and proposed impervious areas including tennis courts, patios, driveways, etc.

c) FEMA Special Flood Hazard areas, if applicable.

d) Proposed erosion controls and materials to be used (i.e. straw bales, silt fence and straw wattles, compost filter mitts, etc.) must be indicated on the plan. In projects anticipated to encounter or manage groundwater, provide dewatering contingency plans, details and location(s). Hay bales may not be used as these have been found to introduce invasive species.

e) Limit of work.

f) Proposed grading for work area. Proposed contours at 2-foot minimum vertical increments. Spot grades for proposed conditions are required when 2-foot contour intervals do not provide sufficient detail to show stormwater flow path and /or more specific detail is needed to demonstrate stormwater flow path.

g) Locations for storage of materials, equipment, soil, snow and other potential pollutants.

h) Location(s) and description of existing stormwater conveyances, impoundments, wetlands, drinking water resource areas, or other critical environmental resource areas on or adjacent to the site or into which stormwater flows.

i) Proposed drainage facilities (plan view and details) including drawings of all components of the proposed stormwater management system including:

(1) Locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization.

(2) All measures for the detention, retention or infiltration of water.

(3) All measures for the protection of water quality.

(4) For engineered systems designed to provide drainage or stormwater management including, but not limited to, culverts, drainage outfalls, catch basins and pervious pavement 'systems'; provide an appropriate plan detail with notes on drawings specifying materials to be used, and construction specifications.

(5) Notes indicating the required inspections for the site and the stormwater drainage facilities during construction.

i) Proposed landscaping, vegetation and ground surfaces with runoff coefficients for each. Proposed tree removal/plantings and landscaping activities shall be completed in accordance with the requirements of the Department of Public Works and/ or the Conservation Commission as applicable.

k) Locations where stormwater discharges to surface water (include all roads, drains and other structures that could carry stormwater to a wetland or other water body, on or offsite).

l) A general construction note that states the Engineering Division shall be notified prior to work in accordance with project permits.

m) Stamp and signature of a Professional Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the Stormwater Regulations; a stamp and signature of a Professional Land Surveyor (PLS) is acceptable if no drainage facilities are proposed and they have the experience and capability to prepare the required Site Plan and to provide the required existing and proposed grading and erosion control provisions.

5. A Stormwater Management Plan Report shall be prepared in conformance with the Design Standards contained in Section 5 and contain the following elements:

a) Description of the existing site hydrology.

b) A drainage area map showing pre- and post-construction watershed boundaries, drainage area and stormwater time of concentration (Tc) flow paths, including drainage system flows.

c) Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in this Regulation. Such calculations shall include:

(1) Description of the design storm frequency, intensity and duration.

(2) Time of concentration.

(3) Soil Runoff Curve Number (CN) based on land use and soil hydrologic group.

(4) Peak runoff rates and total runoff volumes for each watershed area.

(5) Information on construction measures used to maintain the infiltration capacity of the soil where any kind of infiltration is proposed.

(6) Infiltration rates, where applicable.

(7) Culvert capacities.

(8) Flow velocities.

(9) Data on the increase in rate and volume of runoff for the specified design storms.

(10) Documentation of sources for all computation methods and field test results.

l) If a project requires a Stormwater Pollution Prevention Plan (SWPPP) per the NPDES General Permit for Storm Water Discharges from Construction Activities (applicable to construction sites that disturb one or more acres of land), then the Applicant is required to submit a complete copy of the SWPPP (including the signed Notice of Intent and approval letter) as part of its Application for a SMP.

7. Post Construction Operation and Maintenance Plan (O&M)

a) The Post-Construction O&M Plan shall be included that shall be designed to ensure compliance with the Permit, Article 15 and these Rules and Regulations and that the Massachusetts Surface Water Quality Standards, 314, CMR 4.00 are met in all seasons and throughout the life of the system. The O&M Plan shall be a stand-alone document, and shall remain on file with the Engineering Division and shall be an ongoing requirement. The O&M Plan shall apply to the entire project site, not just the disturbance area.

b) The Post-Construction O&M Plan shall include, at a minimum:

(1) The name(s) of the owner(s) for all components of the system and emergency contact information.

(2) The signature(s) of the owner(s).

(3) The names and addresses of the person(s) currently responsible for O&M. If O&M responsibility is contracted to a third party; a copy of the maintenance agreement(s) must be provided. If the responsible party is not the owner of the property where the

BMP is located then a copy of the legal instrument that establishes the terms of and legal responsibility for the O&M of the project site BMPs as well as a plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions must be included.

(4) An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed.

(5) A reduced size plan or map clearly showing the location of the systems and facilities including easements, catch basins, manholes/access lids, main, and stormwater devices.

(6) If applicable, a list of easements necessary for the construction and O&M of the stormwater system, with the purpose and location of each. Easements shall be recorded with the Middlesex South County Registry of Deeds prior to issuance of a Stormwater Management Certificate of Compliance by the Engineering Division.

(7) Estimated annual O&M budget.

(8) O&M inspection schedule and log form.

(9) The final O&M Plan shall be signed by the property owner and shall be provided at the time of sale/property transfer to any subsequent property owners to ensure that the transfer of responsibilities is understood by future owners.

(10) Provisions for the Engineering Division or its designee to enter the property at reasonable times and in a reasonable manner for the purpose of inspection.

APPENDIX C: STANDARD CONDITIONS FOR STORMWATER MANAGEMENT PERMITS

Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Permit.

1. This Permit does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.

2. This Permit does not relieve the Applicant or any other person of the necessity of complying with all other applicable federal, state or local statutes, ordinances, by-laws or regulations.

3. The work authorized hereunder shall be completed within three years from the date of this Permit unless the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance and both that date and the special circumstances warranting the extended time period are set forth in this Permit.

4. This Permit may be extended by the issuing authority for one or more periods of up to three years each upon Application to the issuing authority at least 30 days prior to the expiration date of the Permit.

5. No work shall be undertaken until all appeal periods from this Permit have elapsed or, if such an appeal has been filed, until all proceedings before the Court have been completed.

6. A copy of the Approved Permit shall be kept on-site at all times during construction. All contractors and subcontractors engaged during construction shall be provided with a copy of this Permit and all supporting documents before commencing work.

7. The Applicant shall provide the Engineering Division a forty-eight (48) hour notice, in writing, before starting any work authorized or required by this Permit.

8. Prior to the start of work, the Applicant shall install erosion and sedimentation controls in accordance with approved design.

9. After installation of erosion and sedimentation controls, but prior to the conduct of any other site work authorized or required by this Permit, the Applicant shall contact the Engineering Division to determine if a pre-construction meeting will be required. Should a pre-construction meeting be required, the Applicant, and the person and/or contractor engaged to install the stormwater management system shall be present to insure that all aspects of the Permit are fully understood, particularly the necessity to install the system in accordance with the approved design details. The Applicant is required to schedule two observation visits (the bottom excavation observation and system installation observation). The Engineering Division or its Designee has the authority to schedule additional observations if needed (e.g. erosion control observation and final as-built observation).

10. Accepted engineering and construction industry standards of workmanship, materials, and procedures shall be followed to the completion of the project in a proper, substantial, and workman-like manner. Engineering and construction shall be provided in a manner consistent with the level of care and skill ordinarily exercised by those providing services under similar circumstances, and all work must abide by all current Federal, State, and Local regulations and codes regarding engineering and construction.

11. In the event of any spill of hazardous materials (including gasoline, fuel oils, lubricants and hydraulic fluids), the Arlington Fire Department (781-316-3800), the DEP's Spill Response Unit (617-556-1133), the Arlington Board of Health (781-316-3170), the Arlington Conservation Commission Office (781-316-3012), and the Arlington Engineering Division (781-316-3320) shall be contacted immediately.

12. The Contractor shall clean up at least daily, all refuse, rubbish, scrap and surplus materials, debris, and unneeded construction equipment resulting from the construction operations. The site of the work and the adjacent areas shall be kept in a neat and orderly condition. Sediments that might be deposited on streets adjacent to the site shall be swept up daily.

13. Any fill used in connection with this project shall be clean fill, containing no trash, refuse, rubbish or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles or parts of any of the foregoing.

14. All loam to be used in the landscaped areas of the site shall be from sources certified to be free from weed seeds, especially those of invasive species.

15. All excavated earth material not used during the course of this project and all construction waste and debris shall be removed from the site and disposed of in accordance with applicable regulations. No construction waste or debris may be discharged to the drainage system.

16. The Applicant shall immediately control any erosion problems that occur on-site, and shall notify the Engineering Division of said problems. If any erosion problems occur it may become necessary to install additional erosion and sedimentation controls in association with this project.

17. Following completion of work, the Applicant shall request, in writing, that a Stormwater Management Certificate of Completion be issued. The request shall state that stormwater management system has been satisfactorily installed and the site has been adequately stabilized.

18. After completion of construction, fertilizers utilized for landscaping and/or lawn care shall be organic in nature and of the low phosphorus content variety.

19. The owners of the project and their successors in title, in the event they proceed to alter areas subject to the Engineering Division's jurisdiction under this Permit, agree that the Town of Arlington shall have no responsibility to maintain the proposed drainage system and that said Town shall not be liable for any damages in the event of failure. By acceptance of this Permit, the owners indemnify and hold harmless the Town of Arlington and its residents for any damages attributable to alterations undertaken on this property pursuant to this Permit. Issuance of this Permit does not in any way imply or certify that the site or downstream areas will not be subject to flooding, storm damage, or any other form of water damage.

TOWN OF ARLINGTON
Department of Public Works
51 Grove Street
Arlington, Massachusetts 02476
Office(781) 316-3320 Fax (781) 316-3281

Engineering Division

Stormwater Management Permit
Other Permitting Jurisdictions Certification Form

Projects or activities that require a Minor Stormwater Management Permit:

1) Any land alteration, disturbance, development, or redevelopment that results in an increase in impervious area of 350 square feet up to 1,000 square feet, except for work that requires a building permit.
2) The expansion of a driveway or parking area with a resultant increase in impervious area between 350 and 1,000 square feet.

Projects or activities that require a Major Stormwater Management Permit:

3) Any project or activity effectuating an alteration, disturbance, development, or redevelopment of land that increases impervious area and is ineligible for a Minor Stormwater Management Permit requires a Major Stormwater Management Permit.
4) Any land alteration, disturbance, development, or redevelopment that results in an increase in impervious area of 1,000 square feet or more and/or disturbs one acre of land or more.
5) Any alteration, disturbance, development, or redevelopment that results in an increase in impervious area of 350 square feet or greater and requires a building permit from Inspectional Services.

Please refer to Section 4.A of the Arlington Stormwater Management Rules and Regulations for a list of projects that are exempt from a stormwater management permit.

Name:	Email:	Phone:
Project Location:		
Project Summary:		

Select one of the following:

- ☐ Based on the project description and the thresholds above, this project does not require a stormwater permit.
- ☐ Based on the project description and the thresholds above, this project requires a Minor Stormwater Permit.
- ☐ Based on the project description and the thresholds above, this project requires a Major Stormwater Permit.

This project also requires the following permits:

- ☐ Environmental Design Review Special Permit (Arlington Redevelopment Board)
- ☐ Conservation Permit (Conservation Commission)
- ☐ Special Permit or Variance (Zoning Board of Appeals)
- ☐ Building Permit (Inspectional Services)
- ☐ Demolition Permit (Inspectional Services)

I certify that I have received the requisite Stormwater Permit, as applicable, and that I am pursuing all other Town of Arlington permits that are required for this project.

Signature Date

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ARTICLE 27 HOME RULE LEGISLATION/ REAL ESTATE TRANSFER FEE

To see if the Town will vote to authorize and request the Select Board to file Home Rule Legislation or other Special Legislation which would permit the Town to impose a real estate transfer fee or tax for the purposes of acquiring, creating, preserving, rehabilitating, restoring and supporting affordable housing in the Town; said fee or tax to be levied on the buyer, seller, or both on the purchase price of qualifying real estate, the proceeds of which are to be deposited in an Arlington Affordable Housing Trust Fund established pursuant to section 55C of chapter 44 of the General Laws; to set forth the rate, the qualifications for applicable transfers, and exemptions of and to such a tax or fee; and to authorize the procedures and requirements necessary for the collection of such fee; or take any action related thereto.

WHEREAS Arlington is one of the Commonwealth's wealthiest towns with a median household income, of $108,389[1], one of the highest in Boston's inner-core, and the median for married couples with dependent children is approximately $159,375[2].

WHEREAS Arlington has one of the highest median single-family home price of any community in the Commonwealth, at $860,000[3] and the average market rent is approximately $1,730[4].

WHEREAS affordable housing is further compounded and complicated by a combination of regional housing demand and constrained supply.

WHEREAS in view of limits on Arlington revenue growth, there is likely insufficient funding from existing sources for affordable housing purposes after meeting the Town's existing operational and infrastructure maintenance commitments.

WHEREAS the Town of Arlington's Housing Plan Implementation Committee has explored a real estate transfer fee to expand Arlington affordable housing, among the possible purposes. While the State House and Senate will be considering a local option bill in 2021 and many home rule petitions are still pending, the Town should file its petition for the next legislative session so that Arlington may benefit and join any legislative hearings.

WHEREAS the Real Estate Transfer Fee, as recommended, would fund an Arlington Affordable Housing Trust Fund is equitable, very low impact, and inexpensive to administer.

WHEREAS a Real Estate Transfer Fee would be in line with the direction of neighboring communities including Concord, Cambridge, and Somerville moving to employ such fees to create affordable housing.

WHEREAS this type of fee is appropriate to fund housing and is clearly defined, nonrecurring purposes.

[1] 2015-2019 American Community Survey
[2] 2015-2019 American Community Survey
[3] Banker and Tradesman for calendar year 2020
[4] 2015-2019 American Community Survey

WHEREAS a real estate transfer fee earmarked for the Arlington Affordable Housing Trust Fund is well suited to operate within the Town's organizational structure and financial policies, and is specifically adapted to and compatible with the unique combination of long established neighborhoods and commercial districts in Arlington.

THEREFORE, the Town of Arlington hereby requests that the Legislature grant the Town of Arlington authority to levy a real estate transfer fee on the purchase price exceeding a threshold set by the Select Board for the last 12 months, but not less than 100% of the statewide median sale price of a single family home as determined by the Department of Housing and Community Development for that same time period , to range between 0.05% and 2.0% as set by the Select Board upon the transfer of any real property interest or the transfer of a controlling interest in a trust, limited liability company, or other entity that directly or indirectly holds an interest, in any real property situated in the Town of Arlington. The Town shall have the authority to designate by bylaw whether the fee shall be borne by the buyer, the seller, or how it will be allocated between the two. The Town may define by bylaw what constitutes a controlling interest and the calculation of the fee.

And that the Town shall authorize certain transfers of real property interests be exempt from the fee including: transfers made as gifts with consideration less than $100 if the seller shall have been at the time of the transfer the spouse, lineal descendant, or the lineal ancestor of the purchaser, by blood, marriage, or adoption; transfers to the federal government, the Commonwealth, and any of their instrumentalities, agencies or subdivisions, including the Town and the Arlington Housing Authority; transfers of residential property that include one or more units governed by affordable housing restrictions provided that the fee imposed shall be proportionately reduced based on the percentage of residential units with affordable housing restrictions, as compared to the total number of residential units; transfers made without additional consideration to confirm, correct, modify or supplement a transfer previously made; transfers by operation of law without actual consideration, including but not limited to transfers occurring by virtue of death or bankruptcy of the owner of real property interest; transfers made in partition of land and improvements thereto, under chapter 241 of the General Laws; transfers to a charitable organization, as defined in clause Third of section 5 of chapter 59 of the General Laws, or a religious organization, provided, however, that the real property interests so transferred will be held solely for affordable-housing related uses that are consistent with the uses allowed by the Arlington Affordable Housing Trust Fund; transfers for a mortgagee in foreclosure of the mortgage held by the mortgagee, and transfers of the property subject to a mortgage to the mortgagee in consideration of the forbearance of the mortgagee from closing such mortgage; and transfers consisting of the division of martial assets under the provisions of Section 34 of chapter 208 of the General Laws or other provisions of law.

And the Town may not, by bylaw or otherwise, eliminate or reduce any exemption set forth in this in this law.

And that the Town may use existing methods for collection and liening of any outstanding transfer fee. The fee shall be paid to the Town. The Town shall have such remedies to collect the fee as provided by law with respect to the collection of real property taxes. The Town may, by bylaw, adopt additional

requirements, exemptions, waivers, and regulations to implement or enforce said fee, consistent with this act.

And that the Town shall require a copy of the deed or other instrument evidencing such transfer and shall be accompanied by: (i) an affidavit signed under oath or under the pains and penalties of perjury by the purchaser and seller attesting to the purchase price; (ii) the applicable fee owed or, if applicable, an affidavit of intent to seek one of the permissible exemptions, as described above for that property by the purchaser; and (iii) the basis, if any, upon which the transfer is claimed to be exempt in whole or in part from said fees. Upon receipt of the transfer fee or satisfactory evidence of exemption, the Town or its designee shall promptly thereafter issue a certificate indicating that the fee has been paid or that the transfer is exempt from the fee. The South Middlesex Registry of Deeds shall not record or register a deed unless the deed is accompanied by such certificate.

And that the Town's appropriation of funds into the Arlington Affordable Housing Trust Fund under the provisions of MGL Chapter 44 Section 55 C, shall be limited to financing affordable housing and reasonable amounts for personnel and other costs.

And that the Town shall prepare and issue an annual report that: (i) identifies fee receipts; (ii) quantifies affordable housing programs funded, including type and purpose; and (iii) evaluates the impact of said affordable housing programs, including but not limited to, to the extent reasonably possible and permitted by applicable law, the number and demographics of individuals and families served as well as measures of housing stability and wealth generation in the community.

And that this Act shall only become effective by a majority vote for a question on a Town election ballot or act on anything relative thereto.

DRAFT



Town of Arlington, Massachusetts

Meeting Minutes (12/9/20, 12/21/20)

Summary:

10:00 p.m. Board will review and approve minutes

ATTACHMENTS:

	Type	File Name	Description
🗋	Reference Material	Agenda_Item_5_-_12092020_Draft_ARB_Minutes.docx	12092020 Draft ARB Minutes
🗋	Reference Material	Agenda_Item_5_-_12212020_Draft_ARB_Minutes.docx	12212020 Draft ARB Minutes

Arlington Redevelopment Board
Monday, December 9, 2020, 5:00 PM
Meeting Conducted Remotely via Zoom
Meeting Minutes

This meeting was recorded by ACMi.
PRESENT: Rachel Zsembery (Chair), Eugene Benson, Kin Lau, Katherine Levine-Einstein, David Watson
STAFF: Jennifer Raitt, Director of Planning and Community Development, and Erin Zwirko, Assistant Director

The Chair called the meeting to order and notified all attending that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair introduced the first agenda item, Review of FY22 Arlington planning and community development objectives. Ms. Raitt gave an overview of the Department staff structure and the objectives for fiscal year 2022. The objectives include the Town's long range transportation plan, Net Zero Action Plan implementation, the 5 year Open Space and Recreation Plan for 2021-2026, the 5 year Housing Production Plan for 2021-2026, complete the Fair Housing Action Plan, to continue the implementation of the Arts and Culture Action Plan, to create the Minuteman Bikeway Vision Plan, produce a town-wide archaeological survey to provide a guide for planning and preservation, develop a town-wide Stormwater Management Plan, develop a long-range plan for management and stewardship of Town-owned lands, create new Complete Streets Action Plan for fiscal years 2022-2027, create engagement opportunities for people to learn introductory information about the Master Plan, zoning bylaws, and permitting processes, as well as the Department's continued projects. Mr. Lau asked about the industrial zone development and how the Board can encourage property owners do build more commercial or industrial spaces.

The Chair introduced the second agenda item, review 2020 ARB annual goals and discuss 2021 goals. Ms. Raitt reviewed the 4 sections of the Board's 2019-2020 Goals. Ms. Raitt reviewed the proposed Zoning Bylaw Amendments including marijuana regulations, Economic Analysis of Industrial Districts, Net Zero Action Plan recommendation for solar ready bylaw, 2020 ATM Redevelopment board Deferred and New Articles which are administrative amendments, and a review of the remaining 2020 ATM Citizen Petition deferred articles contingent upon petitioner interest in refiling.

Mr. Watson asked about the community engagement activities that took place virtually around housing issues. Mr. Watson said he would like to see an overview of the responses from that engagement. Ms. Zwirko said that the overview can be reviewed at a future meeting. Ms. Raitt said that the Department would want to expand upon that community outreach. Mr. Watson said he would like to have that community engagement prior to reviewing proposals, to be confident that the Board is heading in a direction supported by the community.

Mr. Lau asked about revisiting the Master Plan since the current Master Plan was adopted 5 years ago. Mr. Benson asked if it is possible to file the administrative corrections for Spring Town Meeting if they are ready to process. Mr. Benson asked if there are any zoning changes that can be made to help with the funding for the affordable housing trust fund. Mr. Benson said he would like the Board to think of ways to update the bylaws in order to encourage affordable housing and workforce affordable housing to get built in town. Mr. Benson also suggested adding general clause to the EDR that addresses environment and climate. The Chair suggested creating a set of commercial or business guidelines and work to

assist businesses with commercial development in town. Ms. Raitt said a detailed goal document for the Board to vote on during the meeting on the 21st.

The Chair introduced the fourth agenda item, Discussion about outreach strategy and next steps for zoning amendments and housing discussion. The Chair opened the floor to public comment.
Barbara Thornton, Park Avenue, said she is concerned about the Board's intentions regarding ADUs. Ms. Thornton said she sounds like the ARB would like to set up a competing article. Ms. Thornton said would like the ARB to respect the fact that the community is discussing ADUs. Ms. Thornton advised that the Board use the written process that Ms. Thornton suggested.

Alex Bagnall said that he would like to see outreach across a few different areas and involved a more historical context regarding the housing discussion. Mr. Bagnall said he would like to see the town educated more broadly on the historical aspects, not just specific warrant article discussions. Mr. Bagnall said he will also advance this idea with Envision Arlington. Ms. Raitt said she supports this point and that she does plan to have education sessions regarding the Town bylaw and Ms. Raitt said that another housing forum is important.

Mr. Benson said he agrees with Ms. Thornton, that her template would allow a longer time to consider warrant articles. Ms. Levine-Einstein said that she supports with both Ms. Thornton and Mr. Bagnall. Ms. Levine-Einstein said that as part of the Board's outreach program she would like to hear from the general population of Arlington. Ms. Levine-Einstein said that the Board needs a high quality representative public process.

Ms. Raitt proposed including Ms. Thornton's proposal and conversation with the first Board meeting in January.

Jennifer Suisse said that oftentimes big meetings can be cathartic for the community in order to hear that there are other perspectives besides their own. Ms. Raitt said that she agrees that the town needs a space for people to have a broader conversation and provide the right venue for that conversation.

The Chair closed the floor to public comment.

Mr. Benson moved to adjourn, Mr. Lau seconded, approved 5-0.

Meeting adjourned.

DRAFT

Arlington Redevelopment Board
Monday, December 21, 2020, 7:00 PM
Meeting Conducted Remotely via Zoom
Meeting Minutes

This meeting was recorded by ACMi.
PRESENT: Rachel Zsembery (Chair), Eugene Benson, Kin Lau, Katherine Levine-Einstein, David Watson
STAFF: Jennifer Raitt, Director of Planning and Community Development, Erin Zwirko, Assistant Director, and Kelly Lynema, Senior Planner

The Chair called the meeting to order and notified all attending that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair introduced the first agenda item, Docket #3640, 86 River Street Public Hearing. The applicants did not yet join the Zoom meeting so the Chair introduced the third agenda item, Meeting Minutes while waiting for the applicants. Mr. Benson moved to approve the meeting minutes for the September 21, 2020 ARB meeting as amended, Mr. Watson seconded, approved 5-0.

The Chair proposed continuing Docket #3640 since the applicant had not yet joined the meeting. Mr. Lau moved to continue the hearing to for Docket #3640 until the January 4, 2021 meeting, Ms. Levine-Einstein seconded, approved 5-0.

The Chair introduced the second agenda item at 7:30 PM, Docket #3638, 400-402 Massachusetts Avenue Continued Public Hearing. Ms. Raitt said that the Historical Districts Commission would have to review approve any changes to the structure on this property. Robert Annese said he discussed the project with his clients and the Architect, Ken Fyle, and asked the Board to take notice of the size of the building. Mr. Annese said a concern the applicant has is the return on their investment for this property. Mr. Annese said that the world has changed since the pandemic and more people are working from home, as stated in the New York Times article Mr. Annese cited. Mr. Annese said that a local broker from Andover also stated that many companies will allow working from home going forward, which will make it more difficult to rent office space as opposed to residential space. Mr. Annese said that parking/backing out into the street cannot be changed due to the configuration of the lot. Mr. Fyle gave an overview of the drainage plan for the site and short and long term bike parking. Mr. Annese asked that the Board reconsider and approve four instead of three residential units. Mr. Lau asked about having the bedroom and living room switched in the basement unit. Mr. Fyle and Mr. Annese said that the plans would be updated as Mr. Lau suggested. Mr. Benson asked about switching the bicycle storage and the laundry room. Mr. Fyle said that the laundry room is also the utility room so there would not be as much room for storage and there are also a few steps down to the existing laundry room.

The Chair opened the floor to public comment.

Don Seltzer, Irving Street, reminded the Board that the application for 1500 Mass. Ave. was a similar proposal but 1500 Mass. Ave started without commercial space and wanted to add an office and this site is looking to reduce the office space. Mr. Seltzer said that the Board is taking advantage of the mixed-use requirements. Mr. Seltzer said that the Board was told that the office space at 1500 Mass. Ave. is commercially viable and now two months later the office space at this project is being reduced by 75%. Mr. Seltzer said that this is a disturbing pattern.

Carl Wagner, Edgehill Road, said that that ARB functions for the people and businesses of Arlington. Mr. Wagner said that this proposal and the hotel are shocking in the potential they could set in future for developers to ask for things that are not allowed by our laws. Mr. Wagner said the mixed-use law was intended to create additional residential spaces to help businesses. Mr. Wagner said that we only need to build what is legal in our town. Mr. Wagner said we need to add more business and help businesses.

John Worden, Jason Street, said that Mr. Annese said that his client could not make enough money without changes to the building approved by the Redevelopment Board. Mr. Worden said that no one asked for investment in this building and Mr. Annese should provide some real numbers if return on investment is Mr. Annese's argument. Mr. Worden said that the vibrant businesses in the Toraya business block that were torn down and now they will have apartments with one small commercial space in the corner. Mr. Worden said that you allowed it at 892 Mass. Ave., will allow it at 1500 Mass. Ave. and will not allow it here which is totally inappropriate.

Chris Loreti, Adams Street, said that this proposal is an abuse of the mixed-use law. Mr. Loreti said that if they were trying to be entirely residential then the most allowed based on the lot size would be two. Mr. Loreti said the developers are trying to get the residential units in by allowing a token amount of office space in the building. Mr. Loreti said that an apartment building is not an acceptable use in the B1 zoning district so the ARB has not have the right to grant this use. Mr. Loreti said that the parking is excessive and backing into the street is not allowed for buildings larger than one or two-family homes. Mr. Loreti said that the exterior of the building is tired and needs help and a condition of the special permit should be that the exterior is restored to something more acceptable in keeping with the historic district commission. Mr. Loreti said that he would like the Board to report publicly any meetings between the Board and the Developer's team and what the substance of those meetings and conversations were.

Stuart Brorson, Kensington Park, said that zoning laws exist for a reason, this area is in the business district. Mr. Brorson said he ARB should keep the long-term interest for Arlington not just the short-term interest and should not be willing to change laws to support a developer's profits.

The Chair closed the floor to public comment and asked the Board for their comments. Mr. Watson said that a token amount of commercial space is being left after converting buildings using the mixed-use bylaw. Mr. Watson said that the deviation from the Town's bicycle bylaw requested is just a cost saving measure. Mr. Benson said office space in NYC is not comparable to small office space in Arlington. Mr. Benson said that there has also been an impact on the residential market due to the pandemic. Mr. Annese said he would like to ask for a continuance so he can further consult with his client since the Board is split over this ruling.

Mr. Benson moved to continue the hearing to January 4, 2021, Mr. Watson seconded, approved 5-0.

The Chair introduced the fourth agenda item, Final Draft of 2021 Goals. Mr. Watson asked for clarification regarding the ADU proposal for Town Meeting and whether the ARB would be proposing a separate ADU proposal. The Chair said that the Board would be meeting with Barbara Thornton on January 4, 2021 to work out the ADU proposal plan. Mr. Benson said that he wanted to make sure it was noted that the Board will be bringing non-substantive administrative corrections to Town Meeting. Ms. Raitt said that the Department plans to resubmit the 2020 administrative changes with updates for the 2021 meeting.

Ms. Levine-Einstein moved to adopt the Board's 2021 goals as submitted, Mr. Lau seconded, approved 5-0.

The chair introduced the fifth agenda item, Final Draft ARB Rules and Regulations Amendment. The Chair explained that the approved draft will be discussed at a future Board meeting. Mr. Watson said he still finds it difficult to work through the deadlines in the chart. Ms. Raitt said that the chart was designed based on a Monday night meeting, but the Board does also meet on different days of the week. Mr. Benson said that he has one concern for meetings held on other nights of the week, besides Mondays, because the Board may not receive the meeting materials with enough time to review and prepare before a meeting. Mr. Benson suggested including phrasing that includes when a meeting is held on a day other than Monday the Town will endeavor to post materials more than 48 hours in advance. The Chair said that the final draft of these changes will be posted to be voted on during the January 25th meeting.

The Chair introduced the sixth agenda item, Public Forum: Economic Analysis of Industrial Zoning District. Ms. Raitt started the presentation and Ms. Zwirko introduced the Economic Analysis of Industrial Zoning District presentation. Ms. Zwirko introduced Eric Halverson from RKG Associates and Emily Innes from Harriman. Mr. Halverson reviewed the 5 major zoning districts in Arlington and pointed out the industrial districts. Mr. Halverson said that they conducted market analysis to find the projected demand potential for commercial and industrial space in Arlington over the next 10 years. Mr. Halverson said that the home values in Arlington continue to increase, which also drives up the cost of land and construction in general. Mr. Halverson said industrial districts have diverse businesses if these businesses will most likely have to relocate, they will most likely have to relocate outside of Arlington due to rent prices and pressure from the housing market. Ms. Innes said that they did not want to lose the economic development in the area and how to address the land value. Ms. Innes said they were looking to keep the areas walkable, safe, and attractive areas while reducing the amount of parking and encouraging public transportation. Ms. Innes said that the buildings must be solar ready, include low-impact stormwater management, require equal treatment for all facades, have connections to public sidewalk to front entry changed, and limit the residential use in the mixed-use in these spaces.

Mr. Halverson reviewed the proforma analysis using market studies, research, and input from other projects in nearby communities. The first scenario using property on Mystic Street area, testing the Industrial Retrofit option, found that adding two stories of offices on top of an existing industrial building could net approximately $200,755 to the value. These value figures assume the existing owner would be developing, this scenario/test does not include any land or acquisition costs. The second scenario at 2 Ryder Street rebuilding as new industrial space, 26,000 square foot new industrial building, the expected net present value would be -$2,483,488 as the rent does not justify the land and construction costs. The third, Dudley Street, would combine 5-6 parcels clearing site and building industrial mixed use building estimated that the net present value -$1,715,442 does not provide the return to invest in this scenario, the land cost is another driver of the high costs/low return. The last scenario, Park Ave., ground floor industrial and one floor residential above likely to preform well above market expectations due to the high rent costs, which would carry the cost of this project. The expected net present value after development is $6,727,824. It should be feasible for an existing owner to add on to their building and the industrial and residential scenario should also bring a return. Next steps are to file a zoning warrant article for2021 Annual Town Meeting.

The Chair and Ms. Zwirko opened the floor to public comment.
John Worden said that the ZBWG cancelled a meeting in December so the ZBWG has not voted on or approved. Mr. Worden said that when the proposal for the study using CPA funds and Mr. Worden said that the industrial study would not include residential or mixed-use developments. Mr. Worden said that the Town should leave the remaining 5% of the town that is industrial to stay that way and not become residential. Mr. Worden said that we cannot afford more residential space.

Ms. Zwirko said that residential uses have been allowed in the industrial zoned districts and mixed-use including residential has been in the draft since earlier this fall.

Mr. Halverson explained that the residential scenarios were included in the study to explore all options and that additional residential units will also help with the tax base.

Carl Wagner said he was at Town Meeting when this $70,000 study was approved. Mr. Wagner said that the town has only about 5% commercial tax base and the rest is residential so he was pleased when the study was announced. Mr. Wagner said it is frustrating that the study is no longer about improving and increasing the commercial uses but including residential uses. Mr. Wagner said that if you build additional residential units it will only increase the tax burden of the people who already live here.

Ms. Innes said that they do not want to displace businesses, the ground floor of buildings in these zones will be reserved for industrial commercial use. Ms. Innes said that most industrial buildings are usually only one floor, except in the case of office buildings. Ms. Innes said that building residential or offices and residential spaces on top of the industrial/commercial ground floor of these buildings. Ms. Innes said that the idea of the bonus incentive would give something back to the residential community in order to build taller buildings, in this case the trade- off is net-zero buildings and to restrict community shadows.

Steve Revilak said he would like to set some expectations regarding what might be done with the industrial district changes if adopted. Mr. Revilak said that about 5.5% of Arlington allows industrial and commercial zoning with generates about 5.5% of Arlington's tax revenue. Industrial zoning is about 1% of the zoned acreage and creates about 1% of Arlington's tax revenue. Mr. Revilak said that the Town may look to different types of businesses in the industrial areas, such as a brewery. Mr. Revilak said that he likes the bonus provisions that includes things the community wants and can benefit from.

Ms. Zwirko added that other changes to the Town's alcohol rules might need to be updated to support the addition of breweries.

Stewart Brorson said that he likes this idea a lot bringing industrial uses into Arlington. There is demand for office space such as the Work Bar. Mr. Brorson noted that several scenarios failed due to the land cost issue. Mr. Brorson asked if the ability to exclude the possibility of residential building as part of the zoning would lower the land costs in industrial zones.

Mr. Halverson said the land costs were calculated based on the cost for acquisition, which at this time is limited under the existing zoning to industrial not residential.

Mr. Brorson mentioned that a surplus tax could be charged to developers who would like to build residences.

Don Seltzer said 93% working residents commute out of town most of the jobs in Arlington are filled by people who come from out of town. Mr. Seltzer said that industrial zones have the potential to bring high paying jobs into Arlington. Mr. Seltzer said that this study initially said that mixed-use in the industrial zoning will not include residential uses. Mr. Seltzer said that this is an invitation for developers to follow the path of lowest cost highest revenue and build structures with inexpensive ground floor commercial spaces with residential spaces in the floors above. Mr. Seltzer said that we should abide by the Master Plan.

Ms. Innes said that there was a lot of confusion regarding the table of uses. The proposed table of uses includes the existing and proposed changes that listed residential uses as part of the mixed-use only under proposed changes.

Chris Loreti said that he does not think that the lot sized was correctly calculated in the scenarios presented. Mr. Loreti said that they are basically converting 2/3 of the buildable potential of the industrial zone to residential. Mr. Loreti said that bringing in the residential use will drive up the land prices. Mr. Loreti said we may have to consider the limitations in the industrial zone.

Ms. Innes said that the industrial space is only likely to be on the ground floor so residential spaces can be built above the one floor industrial structures. Ms. Innes said that the residential space will be limited to the building size and height restrictions.

Ms. Raitt said that the Park Ave. lot was also looked at as part of the Arlington Heights Neighborhood Action Plan to better understand the economic viability of redevelopment in these locations. Ms. Raitt also said that the RFP for this project in 2019 and as presented at Town Meeting tied the impetus to the Master Plan, which noted that today's industrial uses have different needs and space requirements than in the past and we need to plan for the future. Ms. Raitt said that this project is to realize the full potential for these industrial spaces.

Len Diggins said that this study is exciting. Mr. Diggins said that he likes the possibilities to have industrial/commercial space, working space above and residential space on the floor above. Mr. Diggins asked if there is a target or goal for the additional revenue for the industrial/commercial space in order to build the plan to get to that goal.

Mr. Halverson said that RKG looked at the number of jobs the town has been able to attract in these industrial/commercial spaces in the last 5 to 10 years and projected that forward over the next 5 to 10 years, which could be used as the base goal. Mr. Halverson said that aside from the Gold's Gym site that Arlington has a site large enough to accommodate a pharmaceutical or biotech site without parcel aggregation.

Christian Klein asked about if it would still be possible to have residential over commercial space. Ms. Innes confirmed that was possible. Mr. Klein wanted to clarify if the residential space would be calculated using the first floor space or just the first floor space devoted to commercial and industrial uses. Ms. Innes confirmed that the residential calculations would be based on just the first floor space devoted to the industrial and commercial space, a residential lobby on the first floor would not be included in the space calculations. Mr. Klein asked if there are any commercial or industrial uses excluded with the building of residential uses. Ms. Innes altered the industrial uses by adding new uses but did not remove any industrial/commercial uses.

Elizabeth Dray said it made it difficult to understand different build out scenarios with different sites instead of submitting different scenarios for one site to determine the financial viability.

Ms. Innes said that they tried to fit in the maximum amount of program allowed for zoning in parcels of different sizes. Ms. Innes said they wanted to test the rules for different types of industrial zoning areas. Mr. Halverson said he wanted to identify sites in different industrial districts but a singular site could have been selected to run all four scenarios.

Ms. Dray asked if the financial scenarios would have been different if tested on different sites. Mr. Halverson said a mixed-use project on the right site could be financially viable.

Allan Tosti said that the Mirak development is a disappointment with the loss of commercial space. Mr. Tosti said that he would prefer to see the land stay as it is than to add more residential. Mr. Tosti said he would like to see Arlington offer jobs as well as bedrooms.

Stewart Brorson said that the problem he saw from the analysis is that the land costs don't always work out as thought. Mr. Brorson suggested looking into what tools are required to encourage industrial or commercial uses without having to do residential.

The Chair closed the floor to public comment and turned the floor back to the Board for questions and comment. Mr. Lau said that if the Town wants to encourage development of industrial or commercial spaces, we need to think about why a developer would build here. Mr. Lau said that while the Town cannot control the value of land, we can help with transportation to assist with commutes or call attention to the desirable pool of employees already living here in Arlington who may want to live near their workplace.

Mr. Watson said that the economic analysis from the proforma scenarios was illuminating. Mr. Watson said that Arlington has lost commercial and industrial parcels to purely residential uses in some cases. He does see the incentive to want to allow some level of residential space along with the commercial and industrial. Mr. Watson said that the Board should make sure that the residential components do not become dominant in these zones.

Mr. Benson said he hopes that a new structure of how things can be built and developed in the industrial zones will emerge. Then it will be up to the Town to apply tools possible to develop the industrial areas. Mr. Benson said he likes the bonuses and incentives to attract industry. Mr. Benson said he does not oppose residential uses, but that the residential should not overwhelm the industrial and commercial spaces. Mr. Benson said that the additional residential development should spark the inclusionary zoning bylaw for more affordable housing. Mr. Benson asked about artists working in living spaces and if there is a way to incentivize that. Ms. Zwirko said that artist's live work space is allowable space as part of the zoning. Ms. Innes said that it is allowed but not incentivized. Mr. Benson said that the emphasis on the environmental issues is the way the town and the world needs to move forward. Mr. Benson asked about the type of solar ready and to make electric car charging stations mandatory. Mr. Benson asked about site contamination and if that has been part of the discussion. Ms. Zwirko said that a parcel by parcel investigation has not yet been done and it is the property owner's responsibility. Mr. Benson suggested adding possible site remediation to the report financials.

Ms. Levine-Einstein said that she thinks that there is a compelling case for residential development in industrial zones but not let the residential overwhelm. Ms. Levine-Einstein said that this acknowledges the broader economic needs and the community's need for housing. Ms. Levine-Einstein asked about other models from other communities with residential and industrial zoning and address why this is necessary. The Chair said that after the zoning recommendations are finalized the next step is creating that value proposition for incentivizing and attracting commercial and industrial development by identifying the highly desirable workforce here in Arlington. The Chair says she is also in favor of limits on the residential development in the industrial districts.

The Chair introduced the last agenda item, Open Forum, and opened the floor to the public for comment. As there were no members of the public requesting to speak the Chair closed Open Forum portion of the meeting.

Mr. Lau moved to adjourn, Mr. Watson seconded, approved 5-0.

Meeting adjourned.

DRAFT

Town of Arlington, Massachusetts

Correspondence Received

Summary:
Correspondence received from:
R. Harney 030321
C. Loreti 030521
X. Pretzer 030921
S. Newton 031121

ATTACHMENTS:

	Type	File Name	Description
🗋	Reference Material	Correspondence_received_from_C_Loreti_030521.pdf	Correspondence from C. Loreti received 030521
🗋	Reference Material	Correspondence_received_from_R_Harney_030321.pdf	Correspondence from R. Harney received 030321
🗋	Reference Material	Correspondence_received_from_S._Newton_031121.pdf	Correspondence from S. Newton received 031121
🗋	Reference Material	Correspondence_received_from_X_Pretzer_030921.pdf	Correspondence from X. Pretzer received 030921

From: "Rachel Zsembery" <RZsembery@town.arlington.ma.us>
To: "Chris Loreti" <cloreti@verizon.net>
Cc: MTintocalis@town.arlington.ma.us, DWatson@town.arlington.ma.us, KLau@town.arlington.ma.us, EBenson@town.arlington.ma.us, "Jenny Raitt" <jraitt@town.arlington.ma.us>, "Douglas Heim" <dheim@town.arlington.ma.us>, "Adam Chapdelaine" <achapdelaine@town.arlington.ma.us>, "Christian Klein" <CKlein@town.arlington.ma.us>, JHurd@town.arlington.ma.us
Date: 03/05/2021 01:26 PM
Subject: Re: ARB Special Permit Hearings

Hello Mr. Loreti,

Thank you for reaching out regarding your concerns. Please allow me to provide a few procedural clarifications with regard to the ARB's meeting structure:
- All ARB meetings are conducted in conformance with the published ARB Rules and Regulations, Open Meeting Law and M.G.L. Ch. 40A.
- Time Limits were clearly set for the agenda item referenced below at the outset of the meeting. Clear direction was provided for opportunities for public engagement for those members of the public who wished to share comments beyond the allotted time in the agenda.
- The utilization of time limits for applicant presentations and public comment is fair and reasonable and will be continued. Applicant presentations are included for the purpose of supplementing previously submitted project documentation, highlighting key points and topics for discussion. Time limits create productive meetings, and the public, applicants, and Board deserve the right to attend efficient meetings.

Thank you,
Rachel Zsembery
Chair, Arlington Redevelopment Board

> From: Chris Loreti <cloreti@verizon.net>
> To: Rachel Zsembery <rzsembery@town.arlington.ma.us>
> Cc: MTintocalis@town.arlington.ma.us, "DWatson@town.arlington.ma.us" <DWatson@town.arlington.ma.us>, KLau@town.arlington.ma.us, EBenson@town.arlington.ma.us, Jenny Raitt <jraitt@town.arlington.ma.us>, Douglas Heim <dheim@town.arlington.ma.us>, Adam Chapdelaine <achapdelaine@town.arlington.ma.us>, Christian Klein <CKlein@town.arlington.ma.us>, JHurd@town.arlington.ma.us
> Date: Wed, 3 Mar 2021 16:21:20 -0500
> Subject: ARB Special Permit Hearings
>
> CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.
>
> Dear ARB Chair Zsembery:
>
> As one of those who was not allowed to speak during the ARB public hearing for 10 Sunnyside on Monday evening, I am writing to express my concerns about the way the ARB is conducting its hearings.
>
> The board is clearly not allowing enough time on its agenda. Two Special Permit hearings were scheduled for the first 45 minutes of the meeting, when an hour was not even sufficient for the first hearing. This should have come as no surprise, as this was a significant, new proposal.
>
> Your proposed solution to those who were not permitted to speak—speaking during "Open Forum" or providing written comments—is no solution at all. Public hearings are held to provide the public the right to be heard. Open Forum is no substitute for formal public hearings, and the ARB does not get to pick and choose who can speak at public hearings. I understand the hearing for 10 Sunnyside will be continued, and I expect at that time that all members of the public will be given the opportunity to speak.
>
> I believe the conduct of the hearings on Monday reflects larger problems with the way the ARB conducts itself as a special permit granting authority. Too often, hearings are run like the cram-down public meetings of MAPC, where the

outcome is decided in advance and public participation is strictly perfunctory.

Trying to limit the applicant to just five minutes for a presentation and limiting public comments to just three minutes reflects a profound disrespect for both the applicant and the public process. I suggest you watch a warrant article hearing of the Select Board (which unlike the ARB has no legal obligation to even hold public hearings on warrant articles) or a special permit hearing of the ZBA to see how much more accommodating they are of comments by applicants and the public.

Finally, I wish to call your attention to the written comments submitted for Monday's zoning article hearings by Attorney Robert Annese. He questions whether the ARB should even be granting special permits subject to Environmental Design Review if it is not going to allow his clients to violate the zoning bylaw as they wish.

If—based on the politically motivated and legally untenable memo* prepared by Town Counsel—the ARB is going to continue to use EDR, a process which is supposed to result in enhanced review and protections for developments, to reduce the basic protections written into the zoning bylaw, then I believe Mr. Annese is absolutely right. It will be appropriate to put the question of eliminating EDR special permits to Town Meeting.

Chris Loreti
Former ARB Member and Town Meeting Member, Precinct 7

*It is particularly notable how closely some of this August 2020 memo reflects the arguments of developer's attorney Mr. Annese, and how directly it contradicts Zoning Bylaw Section 3.3.4.A which allows more restrictive dimensional standards—but not less restrictive standards—to be imposed in Special Permits. (Note that the incorrect reference to "Section 7" made in this section during recodification needs to be changed to "Section 5.")

From: Robin <robinfharney@gmail.com>
To: jraitt@town.arlington.ma.us, EBenson@town.arlington.ma.us, KLau@town.arlington.ma.us, DWatson@town.arlington.ma.us, Rachel Zsembery <rzsembery@town.arlington.ma.us>
Date: 03/03/2021 08:28 AM
Subject: Fwd: Look me in the face and tell me I don't belong in Arlington

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---------- Forwarded message ---------
From: **Robin** <robinfharney@gmail.com>
Date: Wed, Mar 3, 2021 at 8:26 AM
Subject: Re: Look me in the face and tell me I don't belong in Arlington
To: Rachel Zsembery <RZsembery@town.arlington.ma.us>

Nothing about this was an exaggeration. Being held accountable by the public is part of your job as a government body. If you perceive that as a threat, you are in the wrong job.

And yes, choosing to deny housing to the most needy and instead focus it on people near upper-middle-class status is contributing to the current genocide of poor and disabled people, who are disproportionately people of color.

You can't wish that away with polite words. You can't pretend that your job doesn't have these effects. You only use your power to change it. **By denying that you are responsible for who lives and dies, you are denying your power in a moment when you could use it for good.**

When you show that you do not care whether I or my friends live or die, that impacts my ability to participate in a democratic process that requires I perform politeness. But there is NOTHING POLITE about allowing people to die simply so you can preserve the lily-white homogenity of this neighborhood. **There is nothing polite about making the conversation too hostile to accommodate those with most at stake.** Especially when you take any accountability as a threat, and have already brought the police into the conversation.

If you believe I'm taking something out of context, please respond by explaining that the entire board fully supports the proposed warrant articles: one to earmark funds for ACTUALLY LOW INCOME people, and the other to increase the proportion of affordable housing per development.

I'd also like to hear about the resignation of the board member who clearly resents disabled people for our inability to work and prioritizes police officers - despite a record of white supremacists and serious use of force offenses in our

department - over essential workers with lower pay. I expect to see a full public apology to the entire community.

Otherwise, fuck off and do your damn job. I don't need or want any more gaslighting emails from people who don't care if I drop dead.

On Wed, Mar 3, 2021 at 7:43 AM Rachel Zsembery <RZsembery@town.arlington.ma.us> wrote:

> Thank you for your email. It is possible to express disappointment and concern with the Redevelopment Board without accusing the Board of genocide. The comments expressed last night by one of our Board members have clearly been misconstrued and taken out of context. We would like to consider your comments, but it is not helpful to threaten the Board members as a whole, as noted in your postscript.
>
> We do welcome feedback. As a Board, we examine a wide range of development goals within the town, and are committed to a process that we will be starting this spring following Town Meeting to specifically discuss the production and preservation of affordable housing. We hope you will participate in that discussion and contribute to the creation of a plan that will help inform future policies, including warrant articles like the one being discussed Monday night.
>
> Sincerely,
>
> Rachel Zsembery
>
> > From: Robin <robinfharney@gmail.com>
> > To: jraitt@town.arlington.ma.us, EBenson@town.arlington.ma.us, KLau@town.arlington.ma.us, DWatson@town.arlington.ma.us, rzsembery@town.arlington.ma.us
> > Date: Tue, 2 Mar 2021 13:14:26 -0500
> > Subject: Look me in the face and tell me I don't belong in Arlington
> >
> > CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.
> >
> > I just heard how the redevelopment board received the affordable housing warrant articles and the calls to focus on our most vulnerable community members.
> >
> > The board said something about wanting housing for the "real working people" who "matter to society" instead, including police.
> >
> > I am just under the 80% AMI income cutoff that Arlington currently uses for it's "affordable" apartments. But in reality, I'm middle class, bordering on upper-middle. The fact that Arlington treats me like the poorest person who deserves to live here is classism, plain and simple.
> >
> > But no, it's more than that.
> >
> > Arlington is almost 90% white. The income levels in this town are not representative of those in communities of color. My BIPOC friends are running GoFundMes for rent and moving expenses. Arlington talks about valuing diversity, but this is your chance to support changes that will make a material difference. The fact that you consider police welfare over the lives of people of color: it's racism, plain and simple.
> >
> > But no, it's more than that.
> >
> > I am a chronically ill person living on Social Security Disability. Unlike most disability recipients, I am married to a spouse who works. All of my disabled friends are living in extreme poverty through no fault of their own. Those who did not work enough before becoming disabled are prohibited from possessing more than $2000, ever, or they lose all of their income and healthcare. These are people I love. **They cannot afford market-rate rent and they are not allowed to have someone pay it for them.** The fact that they - and by extension, I - don't matter to you is ableism, plain and simple.

But no, it's more than that.

I am a transgender man. I look trans. I get harassed when I walk down the street, and when I use the internet. I need to take steps to disguise my full name when speaking publicly, because I have received death and doxxing threats and had my information released to right wing extremists. What does this have to do with housing? Trans people, on average, are dirt poor. My entire community is poor. Because of job and housing discrimation, because of PTSD from the violence we experience growing up, because we've developed disabilities as the result of stress, because of medical debt, because of being disowned by our families, because we lost everything we have escaping one abusive situation after another. And because we choose low-paying jobs like education, social work, and nonprofits, because we want to make sure no one else goes through what we did. We are here. Lots of us. And you not seeing us, not wanting to help us? It's homophobia and transphobia, plain and simple.

But wait, it's more than that.

We are living through a global pandemic that disproportionately affects the poorest and most medically vulnerable. We are facing an eviction crisis on a scale larger than ever before. Housing is healthcare.
Housing is life saving. Housing will prevent virus transmission to those who would die should they be infected. And your refusal to help the people who need it?

It's genocide, plain and simple.

SO DO YOUR GODDAMN JOBS.

P.S. We will hold you accountable.

32 Ottawa Road
Arlington, MA 02476

March 11, 2021

Arlington Redevelopment Board
730 Mass Ave Annex
Arlington, MA 02476

Re: Warrant Article 43 ADOPTION OF ACCESSORY DWELLING UNITS

Dear Arlington Redevelopment Board,

I am writing to express my support for Warrant Article 43 which would adopt Accessory Dwelling Units into the Zoning Bylaws. I am sure you will receive many comments related to the details of this Warrant Article, but I wanted to step back a bit and share a personal story about how an ADU was important to my own family.

When my grandparents got married and began their family, there was no money for them to buy a home. So my grandfather and his parents split their single family house into what we would now call a main unit and an ADU. Over the years this ADU allowed both parts of the family to provide support to the other while retaining their privacy and independence. If they had not been able to split their house, the lack of privacy would have made the arrangement untenable. Luckily it was possible in that time and place and so my mother still recounts fond childhood memories of running "next-door" to visit her grandparents. She also recalls going over to check on them as their health declined. Thanks to the nearby family support they were able to live in their house with dignity until their deaths. This kind of multigenerational support, first for a young family, and then later for aging parents, would not have been possible without an ADU. **I know from family experience that ADUs can allow people to make best use of their home as their needs change over time.**

I hope that you will support Article 43 and allow by-right ADUs so that Arlington families will have the opportunity to use their homes in the ways that best serve them!

Sincerely,

Sanjay Newton
Town Meeting Member - Precinct 10

From: Xavid <xavid@xavid.us>
To: jraitt@town.arlington.ma.us, rzsembery@town.arlington.ma.us
Date: 03/09/2021 10:53 PM
Subject: In Support of ADUs

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originated from outside of the Town of Arlington's email system. Do not click
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Hello,

I just wanted to write to say that, as a resident of Arlington and a homeowner, I'm strongly in favor of the proposal to allow ADUs in Arlington. Today, Arlington's existing units can become larger and more expensive, but options for creating new smaller and less expensive units are rare. As a homeowner, I should be allowed to create a smaller unit for aging family members or to provide less-expensive housing for people who want to live in Arlington, and more broadly Arlington needs greater housing diversity and more units available at lower prices to improve our diversity and equity and support our existing local community and businesses. Plus, by not requiring parking for ADUs, this article allows new units to be more public transit-focused, which is better for the environment and for traffic. We have a great opportunity to take a positive step towards addressing our housing crisis, and I hope you'll support the proposed ADU article this year.

Sincerely,
~Xavid Pretzer
Precinct 17